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TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1931

No. 826

ED SPROLES ET AL., APPELLANTS,

vs.

T. BINFORD, SHERIFF; O'BRIEN STEVENS, DISTRICT ATTORNEY; R. J. MARTIN, CONSTABLE, ETC., ET AL.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS

FILED MARCH 25, 1932

(36,640)

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IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

In Equity. No. 476

ED. SPROLES, Complainant,

vs.

T. BINFORD et al., Respondents

BILL OF COMPLAINT, APPLICATION FOR TEMPORARY RESTRAINING ORDER, AND INJUNCTION—Filed August 18, 1931

To the Honorable Judges of the District Court of the United States in and for the Southern District of Texas:

The Complainant, Ed. Sproles, a resident and citizen of Tarrant County, Texas, doing business under the name and style of Sproles Motor Freight Lines, respectfully represents unto the Court:

1. That Complainant is a resident citizen of Fort Worth, Tarrant County, Texas, operating a truck business under the name of Sproles Motor Freight Lines, and having an office and place of business in Houston, Harris County, Texas.

2. That the Respondent, T. Binford, is a resident citizen of Harris County, Texas, duly elected, qualified and acting as Sheriff of Harris County, Texas.

3. That the Respondent, O'Brien Stevens, is a resident citizen of Harris County, Texas, duly elected, qualified and acting as Criminal District Attorney of Harris County, Texas.

4. That the Respondent, R. J. Martin, is a resident citizen of Harris County, Texas, duly elected, qualified and acting as Constable of Precinct No. 1 of Harris County, Texas.

5. That the Respondent, J. R. Wright, is a resident citizen of Tarrant County, Texas, and is the duly elected,

[fol. 6] qualified and acting Sheriff of Tarrant County, Texas.

6. That the Respondent, Jesse E. Martin, is a resident citizen of Tarrant County, Texas, and is the duly elected, qualified and acting Criminal District Attorney of Tarrant County, Texas.

7. That the Respondents, Walter Prichard and J. H. Faulkner, are resident citizens of Tarrant County, Texas, and are the duly elected, qualified and acting Justices of the Peace of Precinct No. 1 of Tarrant County, Texas.

8. That the Respondent, Cone Johnson, is a citizen of Smith County, Texas, temporarily residing in Travis County, Texas, and that W. R. Ely is a citizen of Taylor County, Texas, temporarily residing in Travis County, Texas; and that E. K. Martin is a citizen of Bexar County, Texas, temporarily residing in Travis County, Texas, which said last three named Respondents are the duly appointed, qualified and acting Highway Commissioners composing the State Highway Commission of the State of Texas.

9. That the Respondent, L. J. Phares, is a resident citizen of Travis County, Texas, and is the duly appointed and acting Chief of the State Highway Patrol of Texas, under the jurisdiction and control of the State Highway Commission of Texas, and as such Chief is in charge and control of the State Highway Inspectors of Texas and the State Highway Patrol of Texas, the latter being State Highway police officers.

10. That the Respondent, R. V. Abernathy, is a resident citizen of Wichita County, Texas, and is the duly elected, qualified and acting County Attorney of said County.

11. That the Respondent, James V. Allred, is a citizen of Wichita County, Texas, temporarily residing in Travis County, Texas and is the duly elected, qualified and acting Attorney General of the State of Texas.

[fol. 7] 12. That the Respondent, R. S. Sterling, is a citizen of Harris County, Texas, temporarily residing in Travis County, Texas, and is the duly elected, qualified and acting Governor of the State of Texas.

13. That there are other persons other than those expressly named as Respondents who appear to be proper parties, namely, the district and county and city attorneys of each and every district, county and city in the State of Texas, the constables of each and every precinct in the State of Texas, the policemen and officers of the towns and cities of the State of Texas having charge of the enforcement within their respective towns and cities of the Motor Vehicle Act of the State of Texas, the State Highway Patrol officers heretofore appointed by the State Highway Commission of Texas to enforce the provisions of the Motor Vehicle Law of the State of Texas, but such persons are not made parties Respondent hereto except in the manner herein set forth, for the reason that they are numerous in number, their names are unknown to Complainant, and they are so scattered that their names and places of residence cannot be ascertained without great and extraordinary difficulty and their presence is not absolutely essential to a final determination of the matters in controversy in this suit.

14. Complainant alleges that each of the above named Respondents is, or assumes and claims to be, under the laws of the State of Texas, in charge of, and having the duty of enforcing, and prosecuting offenses under, the criminal laws of the State of Texas, purporting to regulate and govern the traffic by vehicles, both passenger and freight, in transportation upon the highways and roads of the State of Texas, including House Bill No. 336, Chap. 282, page 507, Acts of the Regular Session of the 42nd Legislature, hereinafter set forth in haec verba in this bill of complaint; and that the Respondents, the State Highway Commissioners of Texas, L. G. Phares, chief of said State Highway Patrol of Texas, and the State Highway Patrol of Texas, are specifically authorized and required by the terms and provisions of Section 16, of Senate Bill No. 11, [fol. 8] Chap. 42 of the General Laws of the Second Called Session of the 41st Legislature, as amended by Senate Bill No. 31, Chap. 164, page 278, of the General Laws of the Regular Session of the 42nd Legislature, to enforce the provisions of House Bill No. 336 above referred to.

15. Complainant brings this suit to restrain the enforcement of the purported law, herein referred to, not alone

in Complainant's behalf, but also in behalf of thousands of citizens of the State of Texas similarly situated to Complainant in the matters and things hereinafter alleged.

16. Complainant alleges that the matter in controversy in this suit exceeds, exclusive of interest and costs, the sum of Three Thousand ($3,000) Dollars, and arises under the Constitution of the United States of America and the amendments thereto; that the compalinant Ed. Sproles, doing business under the name of Sproles Motor Freight Lines is engaged in the business of operating a commercial motor freight line and has and maintains an office in connection with said business in Houston, Harris County, Texas, Waco, McLennan County, Texas, Dallas, Dallas County, Texas, Fort Worth, Tarrant County, Texas, and Wichita Falls, Wichita County, Texas; that in the conduct of said business the Complainant holds himself out to the public as a carrier of goods, wares and merchandise for hire, using the highways of the State of Texas between the cities above enumerated and intermediate points; that in such business Complainant uses commercial motor vehicles, truck-tractors, trailers, and semi-trailers, all of which conform to the terms and provisions of the valid laws of the State of Texas now in force, and all of which are licensed under the laws of the State of Texas as vehicles authorized to use the highways of the State of Texas in the transportation of the goods, wares and merchandise carried by complainant for the public in the conduct of his business aforesaid; and in this connection Complainant further alleges that he has approximately one hundred (100) vehicles, as defined by the act of the Legislature of Texas [fol. 9] hereinafter referred to, now in use in the conduct of said business; that he keeps and maintains large warehouses, terminals and offices in each of the cities hereinbefore mentioned, as well as in numerous of the intermediate towns along the route served by his transportation line; that the gross business of complainant amounts to the sum of approximately Four Hundred Thousand ($400,000) Dollars per year; that in said business Complainant employs many score of mechanics, drivers, auditors, bookkeepers, inspectors, and miscellaneous clerical help, and in said business Complainant has an investment of Two Hundred Sixty Four Thousand, Nine Hundred and Six and

26/100 ($264,906.26) Dollars, substantially all of which is placed in jeopardy by reason of the matters and things hereinafter set forth.

17. Complainant alleges that for the privilege of using the highways of the State of Texas in the conduct of his transportation business he did on or about Feb. 1, 1931, pay to the State of Texas annual highway license fees aggregating the sum of approximately Ten Thousand ($10,000) Dollars, and in consideration therefor was granted a license by the State of Texas to use his equipment aforesaid in the conduct of his business for and during the current year ending January 31, 1932. In the conduct of said business Complainant is paying to the State of Texas as a gasoline tax approximately the sum of Fourteen Hundred ($1400) Dollars per month, which tax is used for the construction and maintenance of the State Highways of Texas over which Complainant operates his vehicles in the conduct of his aforesaid business. Complainant further alleges that he owns fifteen (15) combinations of vehicles, truck-tractors, semi-trailers and/or trailers, upon each of which Complainant is authorized under his license from the State of Texas to carry loads in excess of seven (7,000) — pounds, and that said combinations of vehicles, truck-tractors, Trailers and/or semi-trailers, were purchased for use in the business of transporting goods, wares, and merchandise over the State Highways of Texas as aforesaid, and which have been continually and are now being used for such purpose, complying in all respects with the State Highway regulations and other valid laws with re-
[fol. 10] spect to the construction and use of motor vehicles upon and over the highways of the State of Texas. In the equipment owned by complainant, there are fifteen (15) combinations, consisting of truck-tractors, semi-trailers and trailers, in excess of a total length of forty-five (45) feet, which are operated over the highways of the State of Texas and not exclusively within the limits of any incorporated city or town in the State, such combinations of vehicles owned by complainant representing a capital investment of One Hundred Fifteen Thousand Nine Hundred Twenty-eight and 33/100 ($115,928.33) Dollars, the use of which is prohibited by the legislative enactment of the State of Texas herein complained of. Complainant has unexpired

contracts which cannot be fulfilled by the use of vehicles constructed and operated in accordance with the provisions of the law hereinafter referred to, and Complainant will be able to renew and extend the time of said contracts for further periods of time beyond the expiration thereof if not prevented therefrom by the terms and provisions of the legislative enactment hereinafter referred to or the enforcement thereof by the Respondents. In order to carry out the terms and provisions of said contracts and to conduct the transportation business aforesaid, Complainant has invested large sums of money in specially constructed equipment, the operation of which is prohibited by the terms of the law hereinafter referred to and such equipment will be rendered valueless, as it cannot be profitably used for any other lawful purpose in the State of Texas if the provisions of said purported law are enforced.

18. Complainant alleges that under the terms and provisions of the law hereinafter referred to, the motor vehicles and combinations thereof owned by Complainant, purchased for his business aforesaid, will be virtually confiscated, as their use over the highways of the State of Texas is prohibited by the terms and provisions of the purported law hereinafter referred to, and this Complainant will suffer irreparable damage in his business for which he has no adequate remedy at law, unless the Respondents herein are restrained from enforcing the terms and provisions of the law above mentioned, which law violates in [fol. 11] its provisions Sections 3, 19 and 28 of Article I of the Constitution of the State of Texas and the Fourteenth Amendment to the Constitution of the United States. Complainant's rates and charges as a common carrier are fixed by regulations of the State Railroad Commission and Complainant has no authority to alter or change the published tariffs of said Commission. Under the proposed law, limiting the length of combinations of vehicles and the net load transported, it will cost Complainant such an additional amount as that no profitable load can be transported, thus resulting in confiscation of Complainant's business without compensation therefor.

19. Complainant alleges that the relevant provisions of the act passed by the Regular Session of the 42nd Legisla-

ture of the State of Texas, effective August 22, 1931, herein complained of, are as follows, to-wit:

"H. B. No. 336

An act to amend Chapter 42, General Laws of the State of Texas, 41st Legislature, 2d Called Session, so as to further regulate the operation of vehicles on the public highways; defining the term "vehicle"; making it unlawful to operate or cause to be operated a vehicle of a size or weight exceeding the limitations prescribed in this Act, with exceptions providing for permits for certain vehicles and loads exceeding the limitations prescribed in this Act; prescribing the width, height, and length of vehicles and combinations of vehicles and loads which may be lawfully operated on public highways; limiting the extent to which any part of the load may extend beyond the front or rear of any vehicle or vehicles; limiting the extent that any load may extend beyond the sides of any passenger vehicle; making it unlawful to operate any motor vehicle having a load in any container, box or binding containing more than thirty (30) cubic feet and weighing more than five hundred (500) pounds where there are more than fourteen [fol. 12] (14) of such containers upon any vehicle or combination thereof; providing for the displaying of red flags or red lights whenever the load or drawbar or coupling of a vehicle extends beyond the rear or the bed or the body thereof; prescribing the maximum load that may be carried on public highways by any commercial motor vehicle, truck-tractor, trailer, or semi-trailer, or combination or train of such vehicles operating outside of the limits of an incorporated city or town, and prescribing the maximum weight per inch width of tire for any motor vehicle that may be operated on a public highway, providing that such provisions as to maximum load and maximum weight per inch width of tire shall not become effective until January 1, 1932; providing that applicants for registration of any commercial motor vehicle, truck-tractor, trailer or semi-trailer shall make and deliver to the tax collector an affidavit showing the weight of the vehicle, which weight shall also be shown on the license receipt which shall

be carried on any such vehicle at all times, and making said affidavit prima facie evidence of the weight of said vehicle; providing certain exceptions to the limitations imposed by this Act as to length of vehicle or combination of vehicles and weight of loads, and of height of vehicle with load when such vehicle is used only to transport property by way of the shortest practicable route over the public highway under specified conditions; regulating the number of trailers which may be drawn by or attached to any motor vehicle; limiting the length of the drawbar, or other connection between any two vehicles; regulating the speed of vehicles, commercial motor vehicles and motor vehicles transporting passengers for hire; providing for the carrying of certain vehicles and prescribing an exception for vehicles drawn by animal power; requiring the keeping of certain lamps on vehicles lighted under certain conditions; providing that it shall be unlawful to operate any vehicle upon the highway with a red light visible directly from the front thereof with exceptions; prescribing character of [fol. 13] and regulating use of brakes, horns and warning devices; providing that every motor vehicle engaged in the transportation of passengers for hire shall be equipped with a fire estinguisher; providing that it shall be unlawful for any person to operate or permit to be operated any commercial motor vehicle of over one ton carrying capacity upon the highway without having a chauffeur's license; making the violation of any provision of this Act a misdemeanor, and fixing and providing penalties and punishments; reserving certain powers to governing bodies of cities and towns; providing that the unconstitutionality of any part or parts of this Act shall not affect the validity of the remaining parts thereof; repealing all laws or parts of laws in conflict herewith, and declaring an emergency.

Be it enacted by the Legislature of the State of Texas:

Section 1. That Section 1 of Chapter 42, General Laws of the State of Texas passed by the 41st Legislature, 2d called Session, relating to the operation of vehicles on the public highways, be and the same is, hereby amended to hereafter read as follows:

"Section 1. The following words and phrases, when used in this Act, shall, for the purpose of this Act, have the meanings respectively ascribed to them in this section, as follows:

" 'Vehicle.' Every mechanical device in, upon or by which any person or property is or may be transported or drawn upon a public highway, including motor vehicles, commercial motor vehicles, truck-tractors, trailers, and semi-trailers, severally, as hereinafter defined, but excepting devices moved by human power or used exclusively upon stationary rails or tracks.

" 'Motor Vehicle.' Every vehicle, as herein defined, which is self-propelled.

" 'Commercial Motor Vehicle.' Any motor vehicle other than a motorcycle, designed or used for the transportation of property, including every vehicle used for delivery purposes.

" 'Truck-tractors.' Every motor vehicle designed or used primarily for drawing other vehicles, and not so constructed as to carry a load other than a part of the weight of the vehicle and load so drawn.

[fol. 14] " 'Trailer.' Every vehicle without motive power designed or used for carrying property or passengers wholly on its own structure and to be drawn by a motor vehicle.

" 'Semi-trailer.' Every vehicle of the trailer type so designed or used in conjunction with a motor vehicle that some part of its own weight and that of its own load rests upon or is carried by another motor vehicle.

" 'Department.' The State Highway Department of this State, acting directly or through its duly authorized officers and agents."

Section 2. That Section 2 of said chapter be and the same is hereby amended to hereafter read as follows:

"Section 2. It shall be unlawful and constitute a misdemeanor for any person to drive, operate or move, or for the owner to cause or permit to be driven, operated, or moved on any highway, any vehicle or vehicles of a size or weight exceeding the limitations stated in this Act or any vehicle or vehicles which are not constructed or equipped as required in this Act, or to transport thereon

any load or loads exceeding the dimensions or weight prescribed in this Act; provided the department, acting directly or through its agent or agents designated in each county, shall have and is hereby granted authority to grant permits limited to periods of ninety (90) days or less for the transportation over State highways of such overweight or oversize or overlength commodities as cannot be reasonably dismanteled or for the operation over State highways of super-heavy and oversize equipment for the transportation of such oversize or overweight or overlength commodities as cannot be reasonably dismantled; provided, that any haul or hauls made under such permits shall be made by the shortest practicable route; provided further, that the department shall designate the county judges of the respective counties in addition to its other designated agents, who acting under the direction of the department shall have and are hereby granted authority to issue such permits over State highways; and provided further, that Commissioners' Courts through the county [fol. 15] judges of the several counties of the State shall have and are hereby granted authority to grant such permits over the highways of their respective counties other than State highways, and the said county judges shall have and are hereby granted said authority independently of the said Commissioners' Courts until such time as the said courts shall have acted with respect thereto. Said Commissioners' Courts, in their discretion, may require a bond to be executed by an applicant in such amount as will guarantee the payment of any damages which any road or bridge traversed or crossed may sustain in consequence of the transportation aforesaid."

Section 3. That Section 3 of said chapter be, and the same is hereby, amended to hereafter read as follows:

"Section 3. (a) No vehicle shall exceed a total outside width, including any load thereon, of ninety-six (96) inches, except that the width of a farm tractor shall not exceed nine (9) feet, and except further, that the limitations as to size of vehicle stated in this section shall not apply to implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highways.

"(b) No vehicle unladen or with load shall exceed a height of twelve feet six inches (12′ 6″), including load.

"(c) No motor vehicle, commercial motor vehicle, truck-tractor, trailer, or semi-trailer shall exceed a length of thirty-five (35) feet, and no combination of such vehicles coupled together shall exceed a total length of forty-five (45) feet, unless such vehicle or combination of vehicles is operated exclusively within the limits of an incorporated city or town.

"(d) No train or combination of vehicles or vehicle operated alone shall carry any load extending more than three (3) feet beyond the front thereof, nor, except as hereinbefore provided, more than four (4) feet beyond the rear thereof.

"(e) No passenger vehicle shall carry any load extending more than three (3) inches beyond the line of the fenders on the left side of such vehicle, nor extending more [fol. 16] than six (6) inches beyond the line of the fenders on the right side thereof; provided, that the total over all width of such passenger vehicle shall in no event exceed ninety-six (96) inches, including any and all such load.

"(f) Immediately upon the taking effect of this Act, it shall thereafter be unlawful for any person to operate or move, or for any owner to cause to be operated or moved, any motor vehicle or combination thereof over the highways of this State which shall have as a load or as a part of the load thereon any product, commodity, goods, wares or merchandise which is contained, boxed, or bound in any container, box or binding containing more then thirty (30) cubic feet and weighing more than five hundred (500) pounds where there are more than fourteen (14) of such containers, boxes or bindings being carried as a load on any such vehicle or combination thereof; provided, that no number of any such containers, boxes or bindings shall be carried as the whole or a part of any load exceeding seven thousand (7,000) pounds on any such vehicle or combination thereof; and provided, that if this subsection is for any reason held to be unconstitutional and invalid, such decision shall not affect the validity of the remaining portions of this Act, and the Legislature hereby declares that it would have passed this Act and each section, subsection,

sentence, clause or phrase thereof, irrespective of the fact that this section be declared unconstitutional; provided, further, that if this Act or any section, subsection, sentence, clause or phrase thereof is held to be unconstitutional and invalid by reason of the inclusion of this section, the Legislature hereby declares that it would have passed this Act and any such section, subsection, sentence, clause or phrase thereof without this section."

Section 4. (Omitted, because not relevant.)

Section 5. That Section 5 of said chapter be, and the same is hereby amended to hereafter read as follows:

"Section 5. No commercial motor vehicle, truck-tractor, trailer, or semi-trailer shall be operated on the public highway outside of the limits of an incorporated city or town [fol. 17] with a load exceeding seven thousand (7000) pounds on any such vehicle or train or combination of vehicles; and no motor vehicle, commercial motor vehicle, truck-tractor, trailer or semi-trailer having a greater weight than six hundred (600) pounds per inch width of tire upon any wheel concentrated upon the surface of the highway shall be operated on the public highways outside of the limits of an incorporated city or town; provided, however, that the provisions of this section shall not become effective until the first day of January, 1932."

Section 6. (Omitted because not relevant.)

Section 7. That Section 5 of said chapter be and the same is hereby further amended by adding thereto a new section to be known as Section 5 (b) which shall hereafter read as follows:

"Section 5. (b) The limitations imposed by this Act as to length of vehicle or combination of vehicles and weight of loads and of height of vehicle with load shall not apply to vehicles when used only to transport property from point of origin to the nearest practicable common carrier receiving or loading point or from a common carrier unloading point by way of the shortest practicable route to destination, provided said vehicle does not pass a delivery or receiving point of a common carrier equipped to transport said load, or when used to transport property from

the point of origin to point of destination thereof when the destination of such property is less distant from the point of origin thereof than the nearest practicable common carrier receiving or loading point equipped to transport such load; provided, however, that in no event except by special permit, as hereinabove specifically provided, shall the length of said vehicles exceed fifty-five (55) feet or the weight of such loads exceed fourteen thousand (14,000) pounds; and provided, further, that the limitations imposed by this Act upon weight per inch width of tire shall apply to all such vehicles and loads; provided that if this Act or any other section, subsection, sentence, clause or phrase thereof, is held to be unconstitutional and invalid by reason of the inclusion of this section, the Legislature [fol. 18] hereby declares that it would have passed this Act and any such section, subsection, sentence, clause or phrase thereof without this section."

Section 8. That Section 7 of said chapter be, and the same is hereby amended to hereafter read as follows:

"Section 7. (a) No motor vehicle shall be driven upon any highway outside of the limits of an incorporated city or town drawing or having attached thereto more than one trailer.

"(b) The drawbar or other connection between any two vehicles, one of which is towing or drawing the other on a highway, shall not exceed twenty (20) feet in length from one vehicle to the other."

Section 9. That Section 8 of said chapter be, and the same is hereby amended to hereafter read as follows:

"Section 8. Rate and speed of vehicle. It shall be unlawful for any person to operate or drive any motor or other vehicle upon the public highways of Texas at a rate of speed in excess of forty-five (45) miles an hour, or drive or operate a motor or other vehicle within the corporate limits of an incorporated city or town or within or through any town or village not incorporated, at a greater rate of speed than twenty (20) miles per hour, provided that it shall be unlawful to operate upon said public highways a commercial motor vehicle as defined in this Act of either a

registered or actual gross weight of six thousand (6,000) pounds or less at a rate of speed in excess of forty (40) miles per hour or such vehicle of either a registered or actual gross weight of over six thousand (6000) pounds, at a rate of speed in excess of twenty-five (25) miles per hour, or within the corporate limits of any incorporated city or town or within or through any town or village not incorporated at a rate of speed in excess of eighteen (18) miles per hour. Provided further, that it shall be unlawful to operate any motor vehicle engaged in this State in the business of transporting passengers for compensation or hire on any highway, road or thoroughfare not privately owned between cities, towns and villages at a rate of speed in excess of forty (40) miles per hour."

[fol. 19] Section 10. (Omitted, because not relevant.)

Section 11. That Section 15 of said chapter be, and the same is hereby amended to hereafter read as follows:

"Section 15. (a) It shall be unlawful and constitute a misdemeanor for any person to violate any of the provisions of this Act.

"(b) Any person, corporation or receiver, who violates any provision of this Act shall, upon conviction, be punished by a fine of not more than two Hundred Dollars ($200.00); for a second conviction within one (1) year thereafter such person, corporation or receiver, shall be punished by a fine of not more than Five Hundred Dollars ($500.00) or by imprisonment in the County Jail for not more than sixty (60) days or by both such fine and imprisonment; upon a third or subsequent conviction within one (1) year after the second conviction such person, corporation or receiver shall be punished by a fine of not more than One Thousand Dollars ($1,000.00) or by imprisonment in the County Jail for not more than six (6) months, or by both such fine and imprisonment. Provisions hereof with respect to imprisonment shall not be applicable to corporations, but double the fines herein provided for may be imposed against them in lieu of imprisonment."

Section 12. Nothing contained in this Act shall be construed so as to limit, restrict or impair the rights, powers

and duties of the governing bodies of cities and towns in this State to continue the exercise of, control over and regulations in respect to streets, alleys and other public places located within the corporate limits of cities and towns, nor to limit or restrict the right of cities and towns to regulate and control traffic upon the streets, alleys and [fol. 20] other public places in cities and towns under any law of this State; provided, no city or town shall pass any ordinance or make any regulation establishing any limit or requirement less than is provided for by the terms of this Act.

Section 13. If any section, subsection, clause, sentence or phrase of this Act is for any reason held to be unconstitutional and invalid, such decision shall not affect the validity of the remaining portions of this Act. The Legislature hereby declares that it would have passed this Act, and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that one or more of the sections, subsections, sentences, clauses or phrases be declared unconstitutional.

Section 14. All laws and parts of laws in conflict herewith are hereby repealed.

Section 15. The importance of this measure for the benefit of public safety and protection of the highways creates an emergency and an imperative public necessity requiring the suspension of the Constitutional Rule relating to the reading of bills on three several days in each House; and such Rule is hereby suspended, and this Act shall take effect and be in force from and after its passage, and it is so enacted.

[fol. 21] 20. Complainant alleges that the foregoing act was passed by the Legislature of the State of Texas on May 15, 1931, and was approved by the Governor of the State of Texas on June 11th, 1931, and the foregoing is a true and correct copy of said law as filed in the office of the Secretary of State of the State of Texas, save and except certain sections relating to safety devices on motor vehicles, which are unimportant in this suit, and which have been omitted as hereinbefore shown.

21. Complainant alleges that the commercial motor vehicles, truck-tractors, trailers and semi-trailers, and combinations thereof, owned by this complainant, the operation of which is prohibited by the aforesaid statute are now operated within and according to the requirements of the laws of the State of Texas, and the rulings of the public authorities of said state in administering the same, and that each of said vehicles or combinations thereof, is operated by a driver, thoroughly trained and efficient as such, and duly licensed under the laws of the State of Texas, and that said vehicles of Complainant and the combinations thereof are so constructed that no whipping or other movement is possible by the semi-trailers or trailers, and that all of Complainant's said vehicles and combinations thereof operate over the highways and streets in the State of Texas without any interruption or danger whatsoever to other vehicles passing at the same time upon said highways, either in the same or opposite directions; that said vehicles operated by this Complainant are absolutely safe in every respect for operation on said highways and streets in the State of Texas in carrying on the character of transportation business conducted by Complainant; that said vehicles and combinations thereof are the only type of vehicle which can be so operated in safety and permit a fair and reasonable profit to the owner in the conduct of such transportation business; and that no other type of vehicle than the type owned and operated by Complainant can be operated in his transportation business under the laws of the State of Texas without loss to the owner thereof and without great danger to the person and property of other [fol. 22] travelers, on said highways in the State of Texas. Complainant alleges that by the type of vehicles used by him, in the conduct of his business as aforesaid he is able to transport his goods, wares and merchandise with much quicker dispatch and at much less cost to all parties in interest than can be done thru the use of any other method of conveyance aside from the type of vehicles used by Complainant and by the means so used by Complainant in said transportation, and that other methods of transportation for the kind and character of business conducted by Complainant are wholly inadequate to meet the needs of the shipping public, which can secure better service for less price by the mode of transportation used by Complainant,

than is the case with any other method of transportation. Complainant further alleges that there are other commercial vehicles, truck-tractors trailers and semi-trailers and combinations thereof, the operation of which on the highways of the State of Texas is forbidden by the aforesaid bill, having a value of approximately One Hundred Fifty Million ($150,000,000) Dollars, and that such other vehicles are owned by many citizens of the State of Texas, engaged in businesses similar to that conducted by Complainant; that all of such motor vehicles and combinations thereof, including these owned by Complainant, are forbidden the use of the highways of the State of Texas, or the use of such vehicles rendered unprofitable by the restrictions imposed by the legislative enactment above mentioned, which said enactment becomes effective as to dimensions on August 22nd, 1931, but such purported law will be enforced by the Respondents herein against this Complainant and other parties similarly situated, unless Respondents are restrained from so doing by a decree of this Honorable Court, and that such enforcement will result in irreparable damage and injury to this Complainant and others similarly situated, for which Complainant and other operators have no adequate remedy at law.

22. Complainant alleges that under the terms and provisions of Section 2 of the Act aforesaid, it is made a violation of the penal laws of the State of Texas for this Complainant to operate his said motor vehicles of a size in excess of the limitations stated in said Act, or to transport thereon any load or loads exceeding the weights prescribed in said Act but it is specified in said section that the [fol. 23] respondent Highway Department or its designated agents, shall have authority to grant permits for the transportation over said highways of overweight or oversize or over-length commodities as cannot be reasonably dismantled or dismounted, or for the operation over said highways of superheavy and over-size equipment for the transportation of such over-size or over-weight or over-length commodities as cannot be reasonably dismantled.

Complainant alleges that the aforesaid section is an unauthorized delegation of power to suspend the criminal laws of the State of Texas, and it is thereby violative of

Section 28, Art. 1 of the Texas Constitution, which provides: "No power of suspending laws in this State shall be exercised except by the legislature," and hence contrary to the Fourteenth Amendment to the Constitution of the United States.

23. Complainant further alleges that Section 2 of the said Act complained of violates Section 1 of Art. 14 of the amendments to the Constitution of the United States, in that it prohibits the operation of any vehicle over the highways of the State of Texas, exceeding the dimensions specified in said Act, and by Section 3 of said act there is excepted from the operation of said law farm tractors and implements of husbandry, including machinery used solely for the purpose of drilling water wells and highway building and maintenance machinery temporarily propelled or moved upon the public highways, and such exceptions make said act and its attempted classifications unreasonable, arbitrary and discriminatory, in violation of the aforesaid section of the Constitution of the United States, because there is no substantial difference from the standpoint of injury to the highways between a farm-tractor, operated upon said highways, and a truck-tractor used by Complainant and others similarly situated, nor is there any substantial difference between trucks and highway machinery used by road contractors and trucks and transportation machinery used by Complainant, nor is there any reasonable distinction which can be justified in law under the provisions of the Constitution of the United States above referred to, between machinery used solely for the [fol. 24] purpose of drilling water wells and machinery used by this Complainant in the conduct of his business or others similarly situated to complainant such as oil well drilling machinery, nor is there any substantial distinction, so far as protection of the highways is concerned, between the equipment used by this Complainant in the conduct of his business and the implements of husbandry which are specifically excepted from the operation of the aforesaid act, which, by making the exceptions above enumerated creates a group or class of persons engaged in using the highways of the State of Texas, without being subject to the penalties prescribed by the Act in question, while Complainant is subject thereto, thus violating the Fourteenth

Amendment to the Constitution of the United States, as well as Sections 3 and 19 of Art. 1 of the Constitution of the State of Texas, such act giving such specially excepted classes privileges in the use of the highways of the State of Texas not accorded to this Complainant, without there being any distinction between the use to which Complainant puts the said highways and the use to which the excepted classes put the same under the exceptions contained in Section 3 of the Act aforesaid. In other words, Complainant alleges that said Act and particularly Section 2 and 3 thereof, is discriminatory, in that it permits the use of the highways of the State of Texas by the classes named in the exceptions specified in Section 3 thereof, without according the same privilege to this Complainant and others similarly situated, when the use to which each puts the highways is substantially the same.

24. Complainant further alleges that said Section 2 is vague, indefinite and uncertain, in that it provides for special permits to be given by the Highway Commission of the State of Texas, or its designated agents in the respective counties for "over-size or over-length commodities as cannot be reasonably dismantled, and no standard or guide is given such Commission by which it can be uniformly determined, so as to apply fairly and equally to all applicants, as to what commodity cannot be reasonably dismantled.

25. Complainant alleges that said Section 2 is invalid under the provisions of the Fourteenth Amendment to the Constitution of the United States, for the reason that in [fol. 25] said act it is specified in Section 7 thereof that the limitations imposed by the Act as to the length of vehicles or combinations of vehicles and weight of loads and of height of vehicle with load shall not apply to vehicles when used to transport property from point of origin to the nearest practical common carrier receiving or loading point, or from a common carrier unloading point by way of the shortest practicable route to destination, provided said vehicle does not pass a delivery or receiving point of a common carrier equipped to transport said load, or when used to transport property from the point of origin to the point of destination thereof when the destination of such

property is less distant from the point of origin thereof than the nearest practicable common carrier receiving or loading point equipped to transport such load. Thereby the Legislature of the State of Texas has made an unreasonable classification which is arbitrary and discriminatory as against this Complainant, in that it is provided, in effect, that this Complainant cannot transport goods, wares and merchandise between Houston Texas, and Dallas Texas, over the route he customarily traverses, in equipment exceeding the maximum weight and dimension restrictions provided by said Act, while at the same time authorizes other persons engaged in the transportation business to haul loads exceeding seven thousand (7,000) pounds where they are carrying such to a railroad receiving point, thereby making an unreasonable distinction between those who are carrying goods, wares, and merchandise in competition with railroads and those who are serving the railroads by bringing goods, wares and merchandise to them for carriage; such discrimination is not permissible under the provisions of the Fourteenth Amendment to the Constitution of the United States, as such attempted distinction has no relation whatsoever to the object of the bill, as stated in Section 15 thereof, which is the protection of the highways and the traveling public, but on the contrary such provision gives a special privilege to the favored few who serve the railroads as against those who compete with the railroads, without reference, in anyway, to highway safety. In other words, Complainant alleges that under the terms of this Act, Complainant may lawfully operate his truck [fol. 26] upon any highway in the State of Texas, carrying a load in excess of seven thousand (7,000) pounds and operating a combination of vehicles in excess of forty-five (45) feet in length, where such load is being carried to a railroad station, but immediately upon passing such station and carrying said load down the highway paralelling the railroad line, Complainant's act becomes criminal and subjects him to fines and imprisonment under the terms and provisions of this Act, and such a condition effected by the provisions of this bill, results in an unreasonable, arbitrary and unfair discrimination, and therefore subjects the bill to the condemnation of Section X, Art. 14 of the Constitution of the United States, as well as the above quoted sections of Article I of the Texas Constitution.

26. Complainant alleges that the aforesaid provisions make it plain and clear, within the text of the act and without the necessity of extraneous proof, that the purpose and intent of this legislation is not to protect the traveling public and the highways of the State of Texas, but to grant a special privilege to those who serve common carriers as against those who are competing with such common carriers, and to insure that the goods, wares and merchandise of the public of Texas should be shipped by railroad and not by truck, the public being thereby deprived of the advantage of transporting property by truck at a less rate and more expeditiously than can be done by rail. The direct result, however, is to destroy Complainant's business without compensating him therefor. In this connection Complainant alleges that said Act is not operative within incorporated cities and towns, but only applies outside of such cities and towns, thus further making it clear that the purpose, object and effect of this legislation was and is not the protection of the public or the highways of the State in general but to restrict and hamper the competition to railroads to such an extent as that it would be impossible to operate profitably truck transportation companies in competition to such railroads. This is accomplished by favoring operators who carry to railroads, as against those such as Complainant, who compete with railroads. Complainant further alleges that said Section 2 of the Act, taken in connection with Section 7 aforesaid is discriminatory, arbitrary and unreasonable, in that combinations of vehicles, such as those owned by Complainant and used in his business, are forbidden where they are [fol. 27] in excess of forty-five (45) feet in length, but under the provisions of Section 7 combinations of vehicles may be of any length where the combination of vehicles is used for the purpose of transporting goods, wares and merchandise to a common carrier receiving point or from a common carrier unloading point, and vehicles used by Complainant in his business exceeding thirty-five (35) feet in length are illegal, whereas those persons engaged in hauling goods, wares and merchandise by truck to railroad receiving points or from railroad unloading points may use vehicles fifty-five (55) — in length and may transport on each of said vehicles loads up to fourteen thousand (14,000) pounds, whereas Complainant is restricted to seven thou-

sand (7,000) pound loads on any such vehicle or combination thereof. Moreover, when hauling to a common carrier receiving point or from an unloading point, a special permit may be secured to carry loads in excess of fourteen thousand (14,000) pounds per vehicle and using vehicles exceeding fifty-five (55) feet in length, or using combinations of vehicles unlimited as to length, thus creating a special and privileged class, which is entitled to special permits to which this Complainant under no condition is entitled where he is engaged in transporting goods, wares and merchandise between towns served by railroads, and by reason of such provisions, the destination of a load is made the test which gauges the legality or the illegality of certain means of transportation, and not the weight of the load, thus obviously showing that the purpose and effect of such law is not the protection of the highways, but the elimination of truck competition which is attempted under the guise of the police power of the State, supposedly being exercised in the interest of protecting the public and the highways of the State of Texas, but in fact creating a discrimination forbidden by the Fourteenth Amendment to the Constitution of the United States.

27. Complainant alleges that Section 3 of said Act creates a classification which is unreasonable, arbitrary and discriminatory and without any substantial relation to the purpose or to what should be the purpose of said law, in that it excepts from the general provisions set out in Section 3, farm tractors as distinguished from truck-[fol. 28] tractors or other commercial tractors and implements of husbandry, including machinery used solely for the purpose of drilling water wells and highway building and maintenance machinery temporarily propelled or moved upon the public highways as distinguished from vehicles used by this Complainant and others similarly situated where there is no material difference between the use to which said parties subject said highways by permissive authority of this bill and the use to which Complainant puts said highway by use of vehicles which are prohibited by this Bill. Under this Bill road contractors can and will operate thousands of trucks exceeding the weight and dimension restrictions of the Bill, which privilege is not accorded Complainant.

28. Complainant alleges that Section 3 of said Act and particularly subdivision C thereof makes a classification which is unreasonable, arbitrary and discriminatory, in that it provides that within the limits of an incorporated city or town, vehicles exceeding thirty-five (35) feet in length and combinations of vehicles exceeding a length of forty-five (45) feet, without load restrictions, may be operated legally and such an exception has no relation to the alleged object or purpose of said legislation, to-wit, the protection of the public and the highways of this State.

29. In this connection Complainant alleges that in transporting a load of freight from the courthouse in Dallas, Dallas County, Texas, to the courthouse in Fort Worth, Tarrant County, Texas, his vehicles exceeding the dimensions prescribed by this Act and his load exceeding the limits prescribed by this Act may be operated in the city of Dallas, Grand Prairie, Dalworth Park, Arlington, Handley and Fort Worth, and are illegally operated under the terms of this act between the aforesaid towns.

Thus over a distance of thirty-five (35) miles, the transportation of merchandise under certain conditions is legal in six instances for a distance of several miles and illegal the remainder of the distance, thereby making an unreasonable and unfair discrimination which under the garb of State police power has no real relation to highway protection, as the same kind and character of highway extends [fol. 29] from the courthouse in Dallas, Dallas County, Texas to the courthouse in Fort Worth, Tarrant County, Texas. On the other hand, the specially excepted classes as above mentioned, farmers, water-well drillers, highway contractors—may use the same highway without restriction as to dimension of vehicles.

30. Complainant alleges that subdivision F of Section 3, violates the Fourteenth Amendment to the Constitution of the United States, in that it undertakes to make a classification which is unreasonable, arbitrary and discriminatory and without any substantial relation to the purpose of the Act by making a distinction between commodities which are boxed or bound in containers or binding, and those not so boxed or bound, and such provision, contained substantially in House Bill No. 628, has heretofore been declared illegal by this Honorable Court in the case of J.

H. McLeaish & Co. vs. T. Binford, et al., and such section so restricts and hampers this Complainant in the proper conduct of his business as that Complainant cannot serve the public in transporting commodities forbidden by this section, unless the enforcement thereof is restrained by this Honorable Court; such prohibition being the effect of this provision without, in any way, being related to highway protection.

31. Complainant alleges that Section 5 of the Act aforesaid is unreasonable, arbitrary and discriminatory and in violation of the provisions of the Fourteenth Amendment to the Constitution of the United States, in that it prohibits "commercial motor vehicles" truck-tractors, trailers and semi-trailers, as defined by said act, from operating upon the public highway outside of the limits of an unincorporated city or town with a load exceeding seven thousand (7,000) pounds, thus prohibiting Complainant from carrying a net load of freight in excess of seven thousand (7,000) pounds, but permitting the operators of motor buses, as distinguished from "commercial motor vehicles", as herein defined, to carry net loads in excess of seven thousand (7,000) pounds and without restriction or limitation of any kind as to the net load; and such a provision is not a distinction which can be justified, having in mind the [fol. 30] protection of the public or highways, for the reason that the public and highways will be damaged, if at all, just as much by a motor bus carrying more than seven thousand pounds (7,000) as a "commercial motor vehicle", such as is operated by Complainant. Said Section 5 is further violative of the Fourteenth Amendment to the Constitution of the United States, in that by its terms Complainant carrying freight from Houston, Texas, to Dallas, Texas, is prohibited from transporting a net load exceeding seven thousand (7,000) pounds, whereas by the subsequent provisions of said act, to wit, Section 7 thereof, such restriction is not applicable to other parties engaged in the transportation of goods, wares and merchandise to a common carrier receiving point or from a common carrier unloading point, as heretofore alleged.

32. Complainant alleges that the highways over which he operates his trucks, which would be prohibited by the

aforesaid Bill, are so designed and constructed as that a gross weight of at least thirty-thousand (30,000) pounds on a vehicle or combination thereof, such as Complainant owns, can be operated without damage to the highways or interference with safety to the traveling public. Most of such highways, over Complainant's route, are paved highways, which are capable as has been demonstrated by careful experiments conducted by the Bureau of Public Roads, Washington, D. C., of safely carrying vehicles having loads of ten thousand (10,000) pounds per wheel, where the vehicle has tire spread proportioned to the gross weight of not exceeding six hundred (600) pounds to the inch of rubber. That all combinations owned by Complainant, exceeding the limitations of said Act, are so constructed as not to injure or damage said Highways, their gross weight being proportioned to tire spread, with ample safety factor. Such combinations do not in truth and in fact injure said highways or endanger the public in their manner of operation, as they comply with all valid motor vehicle weight and dimension regulations now in force in Texas,—Complainant alleges, however, that by legislative fiat, as contained in the Bill aforesaid, the Legislature of Texas has undertaken, under the guise of its police power, to declare that to be detrimental to the highways of the State of Texas, which in truth and in fact is not injurious thereto; and the effect of such legislation is not to afford [fol. 31] any additional highway or public protection, but simply to foster the business of railroads as a favored class, to the detriment of truck operators offering a similar public service, thus denying Complainant and those similarly situated the equal protection of the law, contrary to the Fourteenth Amendment to the Constitution of the United States, and contrary to said Amendment, granting privileges to favored classes, such as farmers, water-well drillers and highway contractors, not accorded Complainant in the conduct of his business under conditions which are in no wise different from those conditions under which implements of husbandry, water-well drilling machinery, farm tractors and road machinery are permitted upon the highways. Under such Bill, operators of motor buses, carrying passengers, are permitted to operate without restriction as to load; Complainant is restricted to a seven thousand

(7,000) pound limit. Under such Bill, gross weight of vehicles, which is the important factor in legislation designed to protect highways, is ignored, and vehicles weighing twenty-two thousand (22,000) pounds or as much more as desired, carrying a load without limit, are legally operated over Texas highways, while an operator of a commerical vehicle is made a criminal if he carries over seven thousand (7,000) pounds net load on a forty-five (45) foot combination, regardless of the weight of his truck, unless such operator carry his commodity to a railroad receiving point in which event he can carry fourteen thousand (14,000) pounds on each vehicle with a maximum length of fifty-five (55) feet, or with a combination of vehicles without restraint, and by special permit can carry an unlimited load in an unrestricted vehicle under the protection of Section 7 of said Act. These unreasonable regulations, not related to highway safety, and these arbitrary classifications, not justified in law, render such an Act unconstitutional; and its attempted enforcement will wreck Complainant's business, destroying his transportation facilities for the sole purpose of benefiting the railroads of Texas.

33. Complainant alleges that Section 9 of said Act violates the Fourteenth Amendment to the Constitution of the United States, in that it creates classifications which are unreasonable, arbitrary and discriminatory and do not have [fol. 32] any substantial relation to the purpose or what should be the purpose of said act, in that "commercial motor vehicles" as defined by said act, having a gross weight of six thousand (6,000) pounds are prohibited from operating at a rate of speed in excess of twenty five (25) miles per hour outside of an incorporated city or town, whereas motor buses or carriers of passengers can operate outside of said incorporated cities or towns, over the public highways of the State of Texas at a rate of speed of forty (40) miles per hour. There is no more danger to the public or damage done to the highways of Texas by a commercial motor vehicle operating at forty (40) miles per hour where its gross weight exceeds six thousand (6,000) pounds than in the case of a motor bus of like weight, at the same rate of speed, and for such reason such provision is grossly discriminatory and violates the equal protection clause of the Constitution of the United States as set forth in the Fourteenth amendment thereto.

34. Complainant alleges that the classifications above enumerated and fully shown in the act herein above referred to, are unreasonable, arbitrary and discriminatory as to this Complainant in each and all of the respects hereinabove alleged, and as such the said Act and each provision thereof hereinabove referred to violates the Fourteenth Amendment to the Constitution of the United States. If said purported law, containing the harsh, unreasonable and discriminatory provisions aforesaid, becomes effective and is enforced by the Respondents herein, Complainant will be unable to carry out existing contracts which he has in full force and effect and which cannot be carried out by this Complainant by compliance with the unreasonable and arbitrary provisions of said Act, thereby causing Complainant and those similarly situated irreparable injury and damage for which Complainant has no adequate remedy at law. Respondents have advised Complainant of their intention to enforce said law, and it will be their official duty to do so, unless restrained by this Honorable Court.

35. Complainant alleges that if Respondents attempt to assess against him the heavy fines and penalties prescribed by said Act Complainant cannot continue the operation of his business, as by so doing all of his employees become sub- [fol. 23] ject to the penalties prescibed therein and will refuse to operate Complainant's motor vehicles in violation of this purported criminal law; that said Respondents herein are threatening to interfere with the conduct of the business of this Complainant and the transportation by Complainant upon his said trucks, trailers and semi-trailers of freight in the manner aforesaid, and have notified Complainant and other persons, firms and corporations engaged in a similar business that they will immediately cause the arrest of the Complainant his servants, agents, employees and representatives and of such other persons, firms or corporations as are engaged in similar transporation business, with similar vehicles, if the Complainant and such other persons, firms or corporations so notified continue to transport freight over the highways and streets of Texas by means of the vehicles and combinations thereof now being used by Complainant in his business aforesaid; that Complainant and his employees will be prosecuted in various counties in Texas for the one and same alleged offense,

namely, the alleged violation of the aforesaid Act, and Complainant's servants, employees and agents will be subject to innumerable arrests and prosecutions for the said one and same alleged offense; And the Complainant will be subject to innumerable suits and prosecutions in widely scattered and separate places throughout the State of Texas, and will be at great expense in the employment of counsel in the preparation for the defense of said suits; that Complainant will be required to furnish bond, bear the expense of his employees and their loss of time and the loss caused by the interference with his business in the defending of the suits and prosecutions and arranging for the release upon bail of his servants, agents and employees and representatives; that the said threats of arrest and prosecution have been made by the Attorney General of the States of Texas, thru his duly authorized deputy, to Complainant's attorney; that like threats have been made by the County Attorney of Wichita County, Texas, and that the officers of the Highway Commission will arrest and interfere with Complainant in the conduct of his business; that threats have become known to various of the customers of Complainant and such have seriously interfered and are [fol. 34] now interfering with the Complainant in carrying on of his business aforesaid; and that Complainant will be prevented from the performance of his contracts heretofore entered into by him and his business will be seriously and irreparably damaged, in that by the terms of Complainant's contracts and by his obligations to keep and maintain regular schedules as a common carrier, Complainant must of necessity have available, in his transportation business, vehicles, the uses of which are prohibited by this Act, and unless Respondents are restrained, Complainant will be forced to stop the conduct of a valuable and lucrative business over a period of many months and possibly years to await the final determination of his criminal prosecutions under the various sections and sub-sections of an Act, which as a whole is illegal and void, because in contravention to the Fourteenth Amendment to the Constitution of the United States and to the several sections heretofore mentioned of Art. I of the Constitution of the State of Texas.

36. Complainant alleges that the aforesaid Act is not within the police powers of the State of Texas; that it

deprives the Complainant of his property as aforesaid, without due process of law, and denies to him the equal protection of the law, and that Complainant does not have any adequate remedy at law, and therefore seeks the interposition of a Court of Equity.

37. Complainant alleges that the Act hereinabove mentioned is now a purported law of the State of Texas, to become effective in its provisions within this State with respect to dimensions of vehicles on August 22, 1931, and as to weight restrictions on January 1, 1932; that Complainant's business is of such a nature as that under the law he is required as a common carrier to keep and maintain regular routes and schedules affording continuous service to the public in general in the transportation of goods, wares and merchandise; that if the Complainant fails to furnish such continuous service his certificate issued by the Railroad Commission of Texas is subject to cancellation, thus destroying Complainant's business which has been built up over a long period of years; that the Respondents have advised Complainant and his attorneys that they intend immediately upon said Act becoming affective on Saturday [fol. 35] August 22nd, 1931, to arrest Complainant, his employees, agents and representatives and it will be their duty as public officers of the State of Texas to do so, unless restrained from so doing by this Honorable Court; and that Complainant will be immediately subjected to innumerable prosecutions and suits unless a temporary restraining order and subsequent temporary injunction is granted, temporarily restraining the Respondents from the enforcement of said provisions of said Act and from interfering with Complainant and his servants, agents and employees in the use of the highways of the State of Texas and the transportation of such freight and commodities by Complainant's commercial motor vehicles, trailers, semi-trailers and truck-tractors over upon and along the highways of the State of Texas.

38. Complainant asks that upon a final hearing that the Court enter an order herein permanently enjoining and restraining the Respondents and each of them and their respective assistants, servants, agents, employees, appointees and representatives from attempting to enforce the

aforesaid act or any of the provisions thereof against this Complainant and those similarly situated. Wherefore, Complainant prays that the Respondents and each of them, and all of their respective officers, agents, appointees, employees and representatives, the State Highway Patrol officers, their successors in office and all other persons charged under the laws of the State of Texas with the enforcement of said Motor Vehicle Law, approved June 11, 1931 be temporarily restrained from arresting or otherwise interfering with Complainant, Complainant's drivers, employees, agents, and servants, or his motor vehicles, truck trailers, trailers, semi-trailers or combinations thereof, now legal under the laws of the State of Texas and employed and used by Complainant in the transportation of goods, wares and merchandise over the highways of the State of Texas, and that Respondents, and each of them, and all of their respective officers, agents, appointees, employees, servants and representatives, the State Highway Patrol officers, or their successors in office, and all other persons charged under the laws of the State of Texas with the enforcement of said Motor Vehicle Law be temporarily rstrained from doing any and all things purporting to be authorized and warranted by the [fol. 36] said Motor Vehicle Act, amending Chapter 42, General Laws of the State of Texas, 41st Legislature, Second Called Session, including the institution of suits, prosecution of Complainant or warrants for the arrest of Complainant, or Complainant's agents, servants, drivers, employees and representatives, and from attempting to enforce the provisions of said amended Motor Vehicle Law; and that the said temporary restraining order may remain in force until the hearing and determination of Complainant's application herein made for a preliminary injunction, enjoining the Respondents as herein prayed, and Complainant hereby applies for a preliminary injunction and prays that same be granted against each and all of said Respondents, their employees, agents, representatives or successors in office, and Complainant prays that upon final hearing said injunction may be made perpetual and permanent and the provisions of the Motor Vehicle Law hereinabove complained of be held to be in conflict with and contrary to the Constitution of the United States and therefore null and void; and that said Act be declared void as depriving Com-

plainant of his property without compensation and without due process of law and as depriving Complainant the equal protection of the laws; that said temporary restraining order remain in effect as authorized by the laws of the United States of America until the hearing and determination of Complainant's application herein for a preliminary injunction, and upon said hearing, after due notice, a temporary order be entered suspending the operation of said statute until the final hearing of this cause, and that upon a final hearing of this cause that said temporary order last aforesaid may be made permanent; and that the Complainant may have such other and further relief in the premises as equity and justice may require and to the court may seem meet.

Respectfully submitted.

Frank H. Rawlings, Chas. I. Francis, of Counsel; Swartzberg & Rawlings, Fair Building, Fort Worth, Texas; Weeks, Morrow, Francis & Hankerson, Staley Building, Wichita Falls, Texas.

[fols. 37-63] *Duly sworn to by Ed. Sproles. Jurat omitted in printing.*

[File endorsement omitted.]

[fol. 64] IN UNITED STATES DISTRICT COURT

[Title omitted]

INTERVENTION OF BULL-STEWART EQUIPMENT COMPANY, INC. —Filed Sept. 2, 1931

To the Honorable Judges of the District Court of the United States in and for the Southern District of Texas:

The Intervener, Bull-Stewart Equipment Company, Inc., permission of the court having been first asked and obtained, files this its petition of intervention herein and respectfully represents to the court:

I

That Intervener is a corporation, duly organized and existing under and by virtue of the laws of the State of

Texas, having its principal office and place of business at Houston, Harris County, Texas.

II

That Respondents, T. Binford, et al., are all of those mentioned in the bill of complaint herein filed by Ed. Sproles.

III

That said Respondents, and particularly L. S. Phares, Chief of the Highway Patrol, his agents, deputies and assistants, and the members of the Highway Commission [fol. 65] are chargeable under the laws of the State of Texas, or claim to be chargeable thereunder, with the enforcement of the terms and provisions of House Bill No. 336, Chap. 282, page 507 of the Acts of the Regular Session of the 42d Legislature, fully set out in haec verba, in paragraph 19, of the bill of complaint herein filed to which reference is here made for all purposes.

IV

Intervener seeks to restrain the enforcement of the aforesaid act, on the grounds that said act, and particularly Sections 2, 3, 5, 7, 9, and 11 thereof, are null and void, in that they deny intervener the equal protection of the laws and deprive Intervener of its property without compensation, and without due process of law, contrary to the provisions of the Fourteenth Amendment to the Constitution of the United States.

V

Intervener further alleges that it is engaged in the business of transporting Ford automobiles over the highways of the State of Texas, under a contract with the Ford Motor Company of Detroit, Michigan; that to comply with and carry out the terms and provisions of said contract, Intervener has acquired and caused to be specially constructed and built motor vehicles, specially designed to transport said automobiles over the highways with safety; that said vehicles consist of a truck-tractor and specially designed trailer attached thereto in combination, which combinations range in length from fifty-five (55) to sixty-five (65) feet; that said combination of vehicles is so constructed as to permit the transportation of four (4) Ford automo-

biles on one load; that therefore the length of said combination must be at least fifty-five (55) feet in order to trans-
[fol. 66] port four (4) Fords thereon; that Intervener under the terms of said contract with the Ford Motor Company, as aforesaid, has bound and obligated himself to distribute and deliver Ford motor cars in Texas to the various dealers and that his operations extend throughout the state; in this connection Intervener alleges that under the contract that it has with the Ford Motor Company, it is necessary that the Intervener carry and transport at least four (4) Ford cars on each of its trips in order that said transporting may be d-ne at a profit; and that if less than four (4) cars are transported by Intervener, such must be done at a loss to Intervener, as his pay for such transportation is such that Intervener's profit is derived by transportation of exceeding three (3) cars to the load; that to carry out Intervener's obligations under the terms of said contract aforesaid, he has constructed thirty (30) pieces of equipment, specially designed to transport Ford automobiles, as aforesaid, which said vehicles are in excess of forty-five (45) feet in length; that they have been constructed by Intervener at a cost of approximately Fifty-Eight Thousand ($58,000) Dollars, built, designed and constructed to transport Ford automobiles, as aforesaid, and said specially designed equipment cannot be used in any other transportation business; that said equipment was so designed, constructed and acquired by Intervener long prior to the time of the passage of the aforesaid act, for this particular operation; that Intervener is engaged in this business solely and his property will be virtually confiscated without due process of law and without compensation if the Respondents are permitted to enforce the terms and provisions of the act aforesaid, and specially the provisions restricting the length of combinations to forty-five (45) feet, all in violation of the provisions of the Fourteenth
[fol. 67] Amendment to the Constitution of the United States.

VI

Intervener specially adopts all of those allegations contained in the bill of complaint herein filed, wherein it is alleged that the restrictions as to weight and limitations

as to length specified by said act are unreasonable, and discriminatory, and in connection therewith alleges that each and all of said discriminations pointed out by complainant in the aforesaid bill of complaint apply to this intervener.

VII

Wherefore, premises considered Intervener prays that the Respondents, and each of them, together with their respective officers, agents, appointees, servants and representatives and their successors in office, and all other persons charged under the laws of the State of Texas with the enforcement of said motor vehicle law, approved June 11, 1931, be temporarily enjoined and restrained from enforcing those provisions of said act, to wit, Sections 2, 3, and 5 thereof, relating to dimensions and restrictions of loads, and that such Respondents be enjoined from arresting Intervener, or Intervener's servants, highway drivers, employees and representatives, because of any alleged violation of the length restrictions contained in said motor vehicle law, or the weight limitations therein contained; that said temporary injunction remain in force until the final hearing and determination of complainant's application and Intervener's petition for a permanent injunction; and Intervener prays that upon final hearing the temporary injunction be made perpetual and permanent and the provisions of the motor vehicle law hereinabove complained of be held to be in conflict with and contrary to the provisions of the Fourteenth Amendment to the Constitution of the [fol. 68] United States, and therefore null and void, and that said provisions of said act be declared null and void, as depriving Intervener and those similarly situated of their property without compensation and without due process of law, and as depriving Intervener of the equal protection of the laws; and that this Intervener may have such other and further relief in the premises as equity and justice may require and to the court may seem meet.

Respectfully submitted.

Frank H. Rawlings, Frank H. Rawlings, Attorney for the Intervener.

Duly sworn to by John W. Luton. Jurat omitted in printing.

[File endorsement omitted.]

[fol. 69] IN UNITED STATES DISTRICT COURT

[Title omitted]

PETITION OF INTERVENTION OF JNO. B. BARBOUR TRUCKING CO.—Filed Sept. 2, 1931

To the Honorable Judges of the District Court of the United States in and for the Southern District of Texas:

The Intervenor, Jno. B. Barbour Trucking Company, Inc., permission of the Court having been first asked and obtained, files his Petition of Intervention herein and respectfully represents to the court:

I

That Intervenor is a corporation duly organized and existing under and by virtue of the laws of the State of Texas, having its principal office and place of business at Iowa Park, Wichita County, Texas.

II

That Respondents, T. Binford, et al., are all of those mentioned in the Bill of Complaint herein filed by Ed. Sproles.

III

That said Respondents are chargeable under the laws of the State of Texas, or claim to be chargeable thereunder, to enforce the terms and provisions of House Bill No. 336, Chapter 282, Page 507, Acts of the Regular Session of the Forty-Second Legislature fully set out en haec verbae, paragraph 19, Bill of Complaint herein filed, to which reference is hereby made for all purposes.

[fol. 70]

IV

Intervenor seeks to restrain the enforcement of the aforesaid Act of the Legislature of the State of Texas, on the grounds that said Act, and particularly Sections 2, 3, 5, 7, 9 and 11 thereof, are null and void in that they deny Intervenor of the equal protection of the laws and deprive Intervenor of his property without compensation and without due process of law, contrary to the provisions of the

Fourteenth Amendment to the Constitution of the United States.

V

Intervenor alleges that the matter in controversy in this suit exceeds, inclusive of interests and costs, the sum of Three Thousand ($3,000.00) Dollars and arises under the Constitution of the United States and the Amendment thereto; that Intervenor is the owner of twenty-three (23) trucks and trailers, all trailers being two-wheel trailers, commonly known as Highway and Spencer Trailers, each weight about 2,000 pounds, except two which weigh about 3,000 pounds, and all of said trucks being known as International Trucks, twenty weighing about 10,000 pounds and three weighing about 16,000 pounds each. Said trucks and trailers are operated by Intervenor in combinations consisting of one truck and trailer, which now comply, in their manner of construction and use while being operated on the highways of Texas, with all the valid laws and regulations of the State of Texas now in force and effect. The principal business carried on by Intervenor is the transportation of oil field equipment and farm machinery and the ordinary pay load carried by Intervenor on a combination truck and trailer is from fourteen to twenty thousand pounds, except on the three heavy International Trucks above mentioned, Intervenor usually carries about 12,500 pounds on the truck and 12,500 pounds on the trailer, making approximately 25,000 pounds on the combination truck and trailer. This equipment of Intervenor represents an investment of approximately $75,000.00, not including a building used as an incident to said business, costing approximately $16,000.00 and not including field cars, tools [fol. 71] and machinery having a value of $5,000.00 used incidentally by Intervenor in the conduct of his transportation business, which brings in to Intervenor each year the gross profits exceeding $75,000.00. About one-half of Intervenor's business consists of interstate business, the transportation of oil field equipment and farm machinery between various points in Texas and other points in Louisiana, Oklahoma, New Mexico and Kansas; and Intervenor has during the past year developed a large and lucrative trucking business as a contract carrier and not as a common carrier.

VI

Intervenor alleges that the aforesaid combinations of vehicles now customarily used by Intervenor in his business exceed in length forty-five feet but are less than fifty-five feet and that in more than 95% of Intervenor's transportation business, Intervenor carries and transports net loads exceeding 7,000 pounds. Substantially one-half of the amount invested by Intervenor in the equipment aforesaid will be lost and destroyed if the restrictions as to length embodied in House Bill 336 are enforced against this Intervenor, as Respondents will do unless restrained by this Court; and Intervenor's business as a whole will be virtually destroyed and his property taken without compensation or due process of law if the weight limitations prescribed by said Act are enforced against Intervenor by Respondents, as Respondents will do unless restrained herein. Moreover, Intervenor has contracts extending beyond January 1, 1932, under which, in order to fulfill same at profit, as figured by Intervenor at the time he took the same, it will be necessary to carry a pay load in excess of 7,000 pounds; and such contract rights will be virtually destroyed by the enforcement of the weight restrictions imposed by this law Intervenor is now being prevented from making other and additional contracts for the transportation of commodities for various Oil Companies, because of the fact that said Respondents are threatening to and will enforce the weight limitations prescribed by said Act on January 1, 1932, unless restrained from so doing. By reason of Respondents threats to enforce the weight provisions of said Act, limiting net loads to 7,000 pounds, such to become [fol. 72] effective on January 1, 1932, Intervenor cannot proceed with the ordinary conduct of his business because Intervenor's customers fear that from and after said date Intervenor will not be able to transport their goods, wares and merchandise on account of the weight restrictions imposed by the terms of said Act and will not contract with Intervenor for any contract hauling beyond January 1, 1932, as they otherwise would do, because of the fear on the part of Intervenor's said customers that Intervenor cannot use his said motor vehicles for transportation of commodities where the weight thereof exceeds the limitation of 7,000 pounds prescribed by said law.

VII

Intervenor alleges that by reason of each and all of the aforesaid matters, his business is being irreparably injured and damaged and Intervenor has no adequate remedy at law therefore and said Respondents should be permanently enjoined from enforcing the weight and dimensions limitations of said Act because the same are null and void in that they violate Sections 3, 19 and 28 of Article 1, of the Constitution of the State of Texas and the Fourteenth Amendment to the Constitution of the United States.

VIII

Intervenor alleges that the combination of vehicles exceeding 45 feet used by Intervenor in the conduct of his transportation business, both intra and interstate, do not damage the highways of the State of Texas or impair the safety of the public in the use of said highways any more, or in any different manner and way, than is true where implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highway, are permitted to use the highways of Texas without limitations as to size of vehicle stated in Section 3 of said Act. Under the provisions of said Section 3, to-wit, Subdivision (c), no commercial motor [fol. 73] vehicle, truck-tractor, trailer or semi-trailer shall exceed a length of 35 feet and no combination of such vehicle, coupled together, shall exceed a total length of 45 feet where operated outside of an incorporated city or town, and therefore, under such provision, vehicles, such as wagons and/or trucks, or combinations thereof, drawn by horses and mules may be used on the public highways of Texas without limitation as to length, thus permitting combinations of wagons and trucks drawn by horses or mules without any length restriction whatsoever to use the public highways of Texas in carrying farm machinery, oil field equipment and the like, while this Intervenor merely because he uses a commercial motor vehicle, cannot operate on the highway any combination of motor vehicles or trailers, such as he owns, without conforming to the length restriction of 45 feet. Intervenor alleges that such a distinction is not justified in law and denies Intervenor the equal pro-

tection of the laws, for the reason that a combination of vehicles, drawn by horses and mules, such as is used by many of Intervenor's competitors, can legally use the highways in Texas without restriction as to the length or weight of load restrictions, whereas such privilege, under the provisions of said Act, is denied Intervenor, contrary to the Fourteenth Amendment to the Constitution of the United States.

IX

Intervenor alleges that said provisions as to length of combinations specified in Section 3-C of said Act, are arbitrary and discriminatory in that such provisions have no relation whatsoever to highway protection or protection of the traveling public in view of the fact that there are excepted from the operations of said Section 3-C, implements of husbandry, water wells drilling machinery, highway building and maintenance machinery, wagons and/or trucks drawn by horses or mules and operators of trucks transporting commodities being hauled to a common carrier receiving or unloading point as authorized by Section 7 of said Act. It is, therefore, evident that the purpose and [fol. 74] intent of said law is not the protection of the highways or the traveling public but to discriminate in favor of railroads and horse drawn vehicles, giving to the latter a virtue of monopoly upon short-hauled transportation, and to the former a monopoly upon long-haul transportation, to the detriment of Intervenor and those similarly situated who are engaged in the business of transporting goods, wares and merchandise by commercial motor vehicles, truck-tractors, trailers and/or semi-trailers, by reason whereof Intervenor and those similarly situated are denied the equal protection of the law, contrary to the Fourteenth Amendment to the Constitution of the United States of America.

X

Intervenor alleges that for the privilege of using the highways of the State of Texas in the conduct of its transportation business, he did on or about February 1, 1931, pay to the State of Texas the annual highway license fees, prescribed by law, and in consideration therefor was granted a license by the State of Texas to use his equip-

ment aforesaid in the conduct of his business for and during the current year ending January 31, 1932. The restrictions as to length imposed upon the commercial motor vehicles and combinations thereof owned by Intervenor, prescribed by Section 3-C of the Act aforesaid, constitutes an unlawful interference with interstate commerce, in that such unreasonable and unjust provision has the effect of preventing the transportation by truck of goods, wares and merchandise from the oil fields in and adjacent to Wichita Falls, Texas, to the various oil fields in the State of Oklahoma, because the provisions of this Act restricting combinations of vehicles to 45 feet and net load to 7,000 pounds, no commercial motor vehicle or combination thereof can profitably operate, since it is only by carrying a load of at least 14,000 pounds, can Intervenor make any profit on hauls in excess of 50 miles distance, it being impossible to profitably transport and carry loads as small as 7,000 pounds for any considerable distance. In this connection, [fol. 75] Intervenor alleges that the net load of a commercial motor vehicle and trailer or combination thereof has no relation to the damage, if any, that such vehicle or combination may do the highways of the State, as such damage is determined by the gross weight of vehicles and load and not by the net load carried upon any vehicle.

XI

Intervenor specifically adopts all of those allegations contained in the Bill of Complaint herein filed, wherein it is alleged that the restrictions as to weight and limitations specified by said Act are unreasonable and discriminatory, and in connection therewith alleges that each and all of said discriminations pointed out by Complainant in the aforesaid Bill of Complaint apply to this Intervenor.

Wherefore, premises considered, Intervenor prays that the Respondents and each of them, and all of their respective officers, agents, appointees, employees and representatives, the State Highway Patrol officers, their successors in office and all other persons charged under the laws of the State of Texas, with the enforcement of said motor vehicle law, approved June 11, 1931, be temporarily enjoined and restrained from enforcing those provisions of said Act, to-wit: Sections 2, 3 and 5 thereof, relating to

dimensions and restrictions of loads, and that such Respondents be enjoined from arresting Intervenor or Intervenor's servants, highway drivers, employees and representatives, because of any alleged violation of the length restriction contained in said motor vehicle law or the weight limitations therein contained; that said temporary injunction remain in force until the final hearing and determination of Complainant's application and Intervenor's petition for a permanent injunction; and Intervenor prays that upon final hearing the temporary injunction be made perpetual and permanent and the provisions of the motor vehicle law hereinabove complained of be held to be in conflict with and contrary to the provisions of the Fourteenth Amendment to the Constitution of the United States, and [fols. 76-92] therefore, null and void, and that said provisions of said Act be declared null and void as depriving Intervenor and those similarly situated, of their property without compensation and without due process of law, and as depriving Intervenor of the equal protection of the laws, and that this Intervenor herein may have such other and further relief in the premises, as equity and justice may require and to the Court may seem meet.

Respectfully submitted,

Chas. I. Francis, Attorney for Jno. B. Barbour Trucking Company, Inc.

Duly sworn to by Gayle Park. Jurat omitted in printing.

[File endorsement omitted.]

[fol. 93] IN UNITED STATES DISTRICT COURT

[Title omitted]

INTERVENTION OF W. T. STEVENS ON BEHALF OF HIMSELF AND CLASS—Filed Sept. 2, 1931

Now comes W. T. Stevens, a resident citizen of Houston, Harris County, Texas, on his own behalf and on behalf of and as a representative of all owners of motor vehicles transporting uncompressed cotton over the highways of the State of Texas, all of whom belong to the same general

class of residents and citizens of the State of Texas who are engaged in the business of transporting uncompressed cotton over the highways of the State of Texas, as does the intervenor referred to by name herein, and to whom and to said intervenor referred to by name herein, and to the original complainant herein, the questions and matters at issue in the above entitled suit are of common, general and mutual interest, and on behalf of all such other persons as have an interest herein and may, by proper proceedings, became parties hereto, and leave having been granted to him to intervene herein and to file this original petition of intervention and represent to the court that he is interested in the questions and matters in litigation in the above entitled suit, and that his interests in said questions and matters are common and general with the complainant in the suit, and that he desires to intervene herein and make himself party-complainant herein, and in support of his complaint in intervention, would with respect state and allege to the court as follows:

I

That at and during all the times referred to hereinafter and in the original bill of complaint herein filed by Ed [fol. 94] Sproles, intervenor W. T. Stevens was and still is a resident citizen of Houston, Harris County, Texas, and was and still is engaged in the business of transporting uncompressed cotton, in trucks belonging to him, for hire, over the highways of the State of Texas. Hereinafter, in certain portions of this intervention, the foregoing named intervenor will be, as a matter of convenience and simplicity, referred to by his individual name, but when so done it is expressly intended thereby and will be understood thereby to refer to said intervenor, not only in his individual capacity, but also in his representative capacity of the class of persons for whom he intervenes herein.

II

That intervenor files this petition of intervention and maintains this suit on his own behalf and, as authorized by Equity Rules Nos. 37 and 38 of the Supreme Court of the United States, on behalf of and as representative of all persons engaged in the business of transporting un-

compressed cotton by motor vehicle, for hire, over the highways of the State of Texas, and which said parties are resident citizens of the State of Texas, all of whom belong to the same general class of resident citizens of the State of Texas who are engaged in the business of transporting uncompressed cotton by motor vehicle, for hire, over the highways of the State of Texas and to whom and to said original complainant herein and to said intervenor referred to by name herein, the questions and matters at issue in the above entitled suit are of common, general and mutual interest, as well as on behalf of all others as are or may be similarly situated, and on behalf of all other persons who may elect to associate themselves with complainant and/or this intervenor. The other and additional persons on whose behalf this suit is brought, and who are not hereinabove specifically called by their names, run into [fol. 95] the hundreds in number, but the exact number and their identity are so subject to fluctuation and change that it would be impossible, or practically so, to make all of them parties by name, and it is impractical to bring all of them before the court by name.

III

That intervenor Stevens and all other carriers of uncompressed cotton on whose behalf he hereby prosecutes this complaint of intervention are at this time engaged in the carriage of uncompressed cotton over the highways of the State of Texas, in trucks belonging to them. That by reason of an Act of the Legislature and which became a law of the State of Texas August 22, 1931, hereinafter more particularly referred to, intervenors are prohibited from operating or moving, or causing to be operated or moved, any motor vehicle or combination thereof over the highways of the State of Texas which shall have as a load or as a part of the load thereon any product, commodity, goods, wares or merchandise which is contained, boxed, or bound in any container, box or binding containing more than thirty cubic feet and weighing more than five hundred pounds, where there are more than fourteen of such containers, boxes, or bindings being carried as a load on any such vehicle or combination thereof; provided, that no number of any such containers, boxes or bindings shall

be carried as the whole or part of any load exceeding seven thousand pounds on any such vehicle or combination thereof. Intervenors, being haulers and transporters of uncompressed cotton over the highways of the State of Texas, by virtue of the operation and enforcement of said Act, are compelled to abandon and discontinue the further pursuit of their said business, as will hereinafter be more fully shown, and any effort on their part to continue the transportation of uncompressed cotton over the highways of the State of Texas as has been by them heretofore done, and in loads of more than thirteen of such bales, of uncom- [fol. 96] pressed cotton per load, is a violation of the Penal Laws of the State of Texas under said Act, as will also be more fully shown hereinafter, and that intervenors, their servants and employees are, by reason of their further and continued transportation of uncompressed cotton in loads in excess of thirteen bales per load, subjected to and have been threatened with numerous and constant arrests by the Peace Officers of the several counties throughout the State of Texas, and by the State Highway Patrol Officers, and are exposed to the infliction of severe fines and penalties, and that intervenors are at this time threatened with arrests and with prosecutions for the violation of said Act and will be arrested and prosecuted and fined, unless the respondents in this suit are restrained from so doing, by order of this Honorable Court.

IV

Intervenors complain of the respondents named in paragraphs 2, 3, 4, 8, 9, 11, 12 and 14 of the original bill of complaint filed herein and in which said paragraphs complainant sets out the names, official positions and residence of each respective respondent, and here and now adopt, approve, ratify, reallege and confirm each and all of the allegations, matters and things set forth and contained in said paragraphs of said original bill of complaint heretofore filed herein, as fully as though set forth at length herein and reiterated herein, except such specific allegations, matters and things as may be inconsistent with the allegations, matters and things set forth and contained in this petition of intervention.

V

Intervenor Stevens alleges that during the year 1930, he entered into an agreement with Mager Cleaver & Company, with headquarters and principal place of business in this State, in Dallas, Dallas County, Texas, under the terms of which intervenor was to transport over the highways of this State all uncompressed cotton owned by said [fol. 97] Mager Cleaver & Company and destined for Houston, Harris County, Texas; that pursuant to said agreement, intervenor Stevens transported approximately sixty thousand (60,000) bales of cotton over the highways of the State of Texas during the year 1930, all of which said cotton was uncompressed and was transported principally from the points of Waco, McLennan County, Texas, Cleburne, Johnson County, Texas, Gonzales, Gonzales County, Texas, and Victoria, Victoria County, Texas, to Houston, Harris County, Texas. In order to properly and efficiently transport said cotton as per the agreement reached, it was necessary for intervenor Stevens to acquire approximately forty (40) trucks, of the Chevrolet, Ford and International types, all equipped with semi-trailers and of one and one-half (1½) ton to three (3) ton capacity, and representing an investment of about Fifty Thousand Dollars ($50,000.00).

In this connection, intervenor Stevens would show unto the court that said agreement heretofore mentioned was renewed for the year 1931 and that under the terms thereof said intervenor was to transport over the highways of the State of Texas all cotton purchased and owned by said Mager Cleaver & Company and to be delivered to Houston, Harris County. That there are at this time several hundred bales of cotton ready to be transported from various points in the State of Texas to Houston, Harris County, Texas and that said intervenor Stevens, under the terms and provisions of his said agreement and contract, is bound and obligated to make proper and immediate transportation of said cotton from said points to Houston, Harris County, Texas. That daily said Mager Cleaver & Company are acquiring additional bales of uncompressed cotton to be transported by intervenor from various points in the State of Texas to Houston, Harris County, Texas and that although conjectural, the present outlook indicates that

[fol. 98] there will be approximately as many bales of uncompressed cotton to be transported over the highways of the State of Texas by intervenor for said Mager Cleaver & Company, this year as was transported during the year 1930, as above set out.

Intervenor alleges that said bales of uncompressed cotton were transported by him in amounts of approximately twenty (20) bales per load, with some of said loads varying to the extent of containing from one (1) to three (3) more bales per load. That the rates for said transportation services agreed upon between intervenor Stevens and said Mager Cleaver & Company in each instance of transportation from any point in the State of Texas to Houston, Harris County, Texas, were considerably less than the rates charged by railroad companies for said transportation services and that the rates now charged by said intervenor for transporting said uncompressed cotton are, in each instance, less than those charged by the railway companies for the same service. That during the year 1930, intervenor Stevens earned and received the approximate sum of Five Thousand Dollars ($5,000.00) for said transportation services rendered to Mager Cleaver & Company pursuant to said agreement, said sum representing a net profit made after all operating expenses were paid and after due allowance had been made for depreciation of said equipment used in the transportation of said uncompressed cotton, and that by reason of the same agreement being in force for the year 1931, and it appearing that said intervenor will transport for Mager Cleaver & Company approximately the same number of bales of uncompressed cotton, his net profit, if permitted to continue to transport said uncompressed cotton as he has heretofore done, will amount to a like sum of approximately Five Thousand Dollars ($5,000.00). By reason of all of which, the matter in controversy in this intervention, exclusive of interest and costs, exceeds the sum of Three Thousand Dollars ($3,000.00), and arises under the Constitution of the United States of America and the amendments thereto, all of which will be hereinafter more fully shown.

[fol. 99] In this connection, intervenor Stevens further alleges that the aforementioned contract and agreement is at this time in full force and effect and is a valid and sub-

sisting agreement, and that said intervenor is at this time operating his said forty (40) trucks in strict compliance with all the laws of the State of Texas relating to the operation of trucks on the highways of the State of Texas; that said trucks are duly and legally licensed, and were at all times, in all matters, respects and particulars, operated over the highways of the State of Texas in absolute conformity with all the laws of the State of Texas appertaining to the operation of such character of trucks over the highways.

VI

Intervenors here and now adopt, approve, ratify, reallege and confirm each and all of the allegations, matters and things set forth and contained in the paragraphs numbered 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 and 34 of the original bill of complaint heretofore filed herein, except such specific allegations, matters and things as may be inconsistent with the allegations, matters and things set forth and contained in this petition of intervention.

VII

Intervenors allege that the customary and usual bale of uncompressed cotton is thirty-six (36) cubic feet in size and that a bale of uncompressed cotton is always of a greater size than thirty (30) cubic feet; that the average and usual bale of compressed cotton compressed to a standard density, is twenty-three (23) cubic feet in size and that every bale of cotton of a standard density compression is less than thirty (30) cubic feet in size. That the average and usual bale of cotton, be it uncompressed or compressed, weighs five hundred (500) pounds or more, although there is some cotton ginned and bound in bales of a weight less than [fol. 100] five hundred (500) pounds, but intervenors aver that of the approximate quantity of sixty thousand (60,000) bales transported by them last year in average loads of twenty (20) bales per load, the percentage of bales weighing under five hundred (500) pounds was about one bale to ever-ten loads, or approximately one-half (½) of one (1) per cent of the cotton transported. By reason of all of which under subdivision (f), Section 3 of said Act, every load of uncompressed cotton transported by intervenors must be con-

fined to a weight of seven thousand (7,000) pounds, or, differently stated, to thirteen (13) bales of uncompressed cotton, and in rare and very unusual instances, fourteen (14) bales of uncompressed cotton, in that every load of uncompressed cotton transported by intervenors will have as a part of such load one (1) or more "containers; boxes or bindings" containing more than thirty (30) cubic feet and weighing more than five hundred (500) pounds. That by reason of said Act compelling intervenors to transport said uncompressed cotton in loads of thirteen (13) bales and no more, with a rare and very occasional load of fourteen (14) bales, the transportation thereof becomes an economic impossibility, in that intervenors could not operate their said trucks in the conduct of this transportation business at the rate they are now charging for the hauling of said uncompressed cotton when hauling only thirteen (13) (and rarely 14) of said bales per load; that furthermore, intervenors cannot conduct the transportation of said uncompressed cotton over the highways of the State of Texas on an economically sound basis by charging the same rates now charged by railway companies for the same service, when their loads are so restricted, and that in order to conduct said business on a basis permitting a profit, they would be forced and compelled to charge a rate over and above that now paid to railway companies for said transportation. That thereby intervenors' said business of transporting uncompressed cotton for hire over the highways of the State of Texas, is destroyed, in that the trans-
[fol. 101] portation thereof in such restricted loads will cause them to operate said business at a loss; and whereas, if intervenors attempted to operate said business by hauling uncompressed cotton in such restricted loads and charging therefor rates in excess of those charged by railway companies, they would not receive contracts for the transportation of said uncompressed cotton, for the reason that shippers would not be willing to pay motor carriers higher rates than those paid to railway companies.

In this connection, intervenors desire to show that under the existing laws of the State of Texas commodities not falling within the inhibitions of this Act can be transported over the highways of the State of Texas in gross weights, including load as high as twenty-two thousand (22,000)

pounds on any one vehicle of four (4) wheels, and as high as thirty thousand (30,000) pounds on any one vehicle of six (6) wheels; that all of the trucks used by intervenor Stevens in the transportation of said sixty thousand (60,000) bales of uncompressed cotton during the year 1930 were vehicles of the six-wheel type, permitting a gross weight of thirty thousand (30,000) pounds; that the vehicle used was of an average weight of fifty-five hundred (5500) pounds, leaving a net weight of twenty-four thousand five hundred (24,500) pounds, intervenor Stevens is allowed to transport on his said six-wheel vehicles, on any one load, when the commodity transported is not one falling within the inhibitions of the Act heretofore pointed out.

By reason of all of the above matters and things stated and pointed out, and especially under the provisions of said portion of the Act herein complained of, (subdivision (f), Section 3) intervenors, as transporters of uncompressed cotton for hire over the highways of the State of Texas, are limited to a net weight of seven thousand (7,000) pounds per load, or to thirteen (13) bales per load, whereas the many transporters of compressed cotton by motor vehicle [fol. 102] over the highways of the State of Texas, using the same character of vehicles as used by intervenors, to-wit: a six-wheel vehicle, are permitted to transport a net weight of twenty-four thousand five hundred (24,500) pounds, or approximately forty-five (45) bales per load. In this connection, intervenors allege that there is no danger of any kind or character, be it to the highways or to the traveling public, to person or to property, that is attendant upon the transportation of uncompressed cotton over the highways of the State of Texas, not common or general to and with the transportation of compressed cotton over the highways of the State of Texas. That such an attempted regulation of the transportation of uncompressed cotton over the highways of the State of Texas, wherein such transportation is limited to seven thousand (7,000) pounds per load, when compressed cotton, as well as other commodities, can be transported in loads of twenty-four thousand five hundred (24,500) pounds per vehicle, with forty (40) to forty-five (45) or more boxes, bindings or containers comprising said load, is not only highly and grossly discrimina-

tory, but bears no relation whatsoever to the regulation of the use or preservation of the highways of the State of Texas.

Intervenors further allege that under the provisions of said Act complained of herein, as haulers of uncompressed cotton, they are prohibited from carrying loads of a weight of seven thousand and one (7,001) pounds per vehicle, or combination of vehicles, whereas, the many owners and operators of such motor vehicles transporting compressed cotton, or other commodities, are permitted to haul loads of gross weight of thirty thousand (30,000) pounds, or loads of net weight of approximately twenty-four thousand five hundred (24,500) pounds, and furthermore, that if one bale of such uncompressed cotton forms a part of the load, said load cannot be over seven thousand (7,000) pounds in weight, whereas a load weighing twenty-four thousand five [fol. 103] hundred (24,500) pounds and consisting wholly of compressed cotton is permitted to be transported, under said Act.

In this connection, intervenors allege that they know of no commodity generally and commonly transported over the highways of the State of Texas fitting and conforming to the commodity "contained, boxed or bound in any container, box or binding, containing more than thirty (30) cubic feet and weighing more than five hundred (500) pounds" other than uncompressed bales of cotton, and intervenors expressly say that there is no such commodity except uncompressed cotton being generally or commonly transported over the highways of the State of Texas by motor vehicle, and further charge that said Act has reference to uncompressed cotton alone.

VIII

That, as has been heretofore pointed out, the enforcement of said Act is tantamount to forcing intervenors to abandon and forsake the lawful business they have heretofore been engaged in; that it will result in a great financial loss to intervenors, in that the equipment heretofore used by them in pursuit of the business of transporting uncompressed cotton over the highways of the State of Texas will be rendered useless to them, and that in attempting to sell their said equipment, the same will have to be offered at a great sacrifice and a material loss, in that there would

be so much of said equipment placed on the market as to cause and bring about an extremely low market value for said trucks and equipment. By reason of all of which the enforcement of said unjust discriminatory and arbitrary Act will not only bring about a complete destruction of the business intervenors are now engaged in, but will likewise [fol. 104] operate destructively to the large investment they made in purchasing the trucks and equipment used in the transportation of said uncompressed cotton.

IX

Intervenors allege that the unjustifiable discrimination contained in said Act, as well as its other concomitent evils, is the capricious handiwork of the interior compresses and the railroads doing business and operating in the State of Texas. That it is legislation designed and purported to favor said interior compresses and railroads, to promote their business and welfare, and to annihilate the business of transporting uncompressed cotton over the highways by motor carrier. That, as hereinabove shown, said Act is wholly without sound and reasonable basis, in that the restriction of transporting uncompressed cotton to seven thousand (7,000) pounds, and the permissive loads of compressed cotton and other commodities to twenty-four thousand five hundred (24,500) pounds, can have no possible reasonable relation to the alleged purpose of the Act, to-wit: A preservation of the public highways and as a measure of safety for the traveling public. That by reason thereof and of all the matters and things heretofore set out, said Act is grossly discriminatory as against intervenors, denies to them the equal protection of the laws, and deprives them of their property without due process of law—all of which is violative of and repugnant to the 14th Amendment to the Constitution of the United States. Intervenors say that they must transport said uncompressed cotton over the highways of the State of Texas, by their motor vehicles, in order to bring about a proper and due fulfillment of the contracts under which they now operate, and in order to be able to continue and stay in their said business. That, as has been heretofore set out, intervenors cannot comply with said Act, in that it would operate manifestly in a most unjust manner to compel them to comply

with said Act; that it would deprive intervenors of their constitutional rights and would clearly bring about a de-
[fol. 105] struction of their legitimate business and a deprivation of their property without due process of law. That, by not complying with said Act, intervenors, their servants, agents and employees will be confronted with numerous arrests, prosecutions and the assessment of fines and penalties, and that by reason thereof intervenors' service and business will be so interrupted as to amount to a destruction of same and will bring about a cancellation of their contracts at present forming their business pursuit. That intervenors have been threatened with arrests and prosecutions upon their failure to fully comply with said provisions of the Act herein complained of, and that unless respondents are restrained by this Honorable Court from so doing, intervenors, their agents, servants and employees will be immediately subjected to innumerable arrests and prosecutions, as well as suits, and that such arrests and prosecutions will force and compel intervenors to abandon their said business.

Intervenors say that they have no adequate remedy at law for the threatened deprivation of their rights and property as set out herein; that their threatened damages are irreparable and incapable of complete judicial ascertainment, but if ascertainable, there is nobody to whom they can look for redress, and their threatened injuries and damages are therefore irreparable and are remediable only in a court of Equity.

Premises considered, intervenors pray that citation issue as prescribed by law commanding respondents, and each of them, to appear herein and answer their complaint, and that upon a hearing of this cause, said Act herein complained of, and particularly Section 3 (f) thereof, be decreed to be void, in so far as said Act, or any portion thereof, relates to and affects intervenors' right to transport un-
[fol. 106] compressed cotton, in their motor vehicles, over the highways of the State of Texas; that respondents and each of them, their successors, deputies and employees, and those under their control whose duty it is to make arrests for the violation of the Act, or any provision thereof, complained of herein, and all officers of the State and any subdivision thereof whose duty it is to make such arrests and

prosecute complaints for the violation of said Act, or any provision contained therein, be perpetually enjoined from molesting or arresting, filing complaints or charges against, or prosecuting intervenors, or any of their employees, for the violation of the provisions of said Act complained of herein in the operation of their motor trucks in the transportation of uncompressed cotton as hereinabove set out, and from taking any steps toward molesting or arresting, or filing charges or complaints against, intervenors, their agents, servants or employees, for failure to comply with said provisions of said Act complained of herein.

Intervenors pray that in order to prevent irreparable injury to them and to fully protect them in the pursuit of their business during the pendency of this suit, this Honorable Court immediately issue a temporary injunction enjoining and restraining said respondents, their successors, deputies, appointees and employees, and all other persons charged under the laws of the State of Texas, with the enforcement of the provisions of said Act complained of herein, known as House Bill No. 336, and that in order to prevent the injuries naturally flowing to intervenors by reason of the enforcement of said Act, as has been heretofore fully set out, respondents, and each of them, and all of their respective officers, agents, appointees, employees, servants and representatives, the State Highway Patrol Officers, and [fol. 107] their successors in office, and *and* all other persons charged under the laws of the State of Texas with the enforcement of said Act, be temporarily restrained from enforcing or attempting to enforce the provisions of said Act complained of herein, and that said temporary restraining order may remain in force until the time of hearing and determination of intervenors' application herein made for a preliminary injunction enjoining the respondents as herein prayed, and intervenors hereby apply for preliminary injunction and pray that same be granted against each and all of said respondents, their employees, agents and representatives, or successors in office; and intervenors pray that upon final hearing said injunction may be made perpetual and permanent and the particular provisions of said Act hereinabove complained of be held to be violative of and repugnant to the Constitution of the United States,

and that said provisions of said Act be declared void as depriving intervenors of the equal protection of the laws and as depriving them of their property without due process of law.

Intervenors further pray that they be granted such other and further relief, in law or in equity, as they may be entitled to, and that they recover from respondents all costs herein expended, for all of which they will ever pray.

Fulbright, Crooker & Freeman, Attorneys for Intervenors.

Duly sworn to by W. T. Stevens. Jurat omitted in printing.

[fol. 108] [File endorsement omitted.]

[fol. 109] IN UNITED STATES DISTRICT COURT

[Title omitted]

PETITION OF INTERVENTION OF YELLOWCAB TRANSIT COMPANY, A CORPORATION—Filed Sept. 3, 1931

To the Honorable Judges of the District Court of the United States in and for the Southern District of Texas:

Comes now the Yellowcab Transit Company, a corporation, and by leave of Court first had and obtained, files this, its petition of intervention, and respectfully shows the Court as follows:

First. That your intervenor is a corporation organized and existing under and by virtue of the laws of the State of Oklahoma, with its principal place of business in Oklahoma City, Oklahoma.

Second. That this intervenor adopts each and every paragraph, including the prayer of the complainant, Ed. Sproles herein, and requests that it be considered the same as if realleged herein.

Third. That this intervenor is engaged in the business of operating a commercial motor freight line in the States of

[fol. 110] Kansas, Oklahoma and Texas, in which it transports merchandise and freight of all kind and character, from points in Oklahoma and Kansas to points in Texas, transporting interstate shipments only, and in connection therewith, maintains an office in Dallas, Texas, and an agent in Houston, Texas; that in the conduct of said business, this intervenor holds itself out to the public as a carrier of goods, wares and merchandise for hire; that in such business, this intervenor uses commercial motor vehicles, truck-tractors, trailers and semi-trailers, all of which conform to the terms and provisions of the valid laws of the State of Texas now in force, and all of which are licensed under the laws of the State of Texas, as vehicles authorized to use the highways in the State of Texas in the transportation of goods, wares and merchandise, carried by the intervenor for the public in the conduct of its business aforesaid; that in this connection, this intervenor further alleges that it has twelve vehicles as defined by the act of the legislature of Texas, referred to in the bill of complaint filed by the complainant herein, and that it maintains a large warehouse and terminal and offices in Dallas, Texas, as well as agents in numerous of the intermediate points along the route served by its transportation line; that the gross business in Texas of the intervenor amounts to the sum of approximately $100,000.00 per year; that in said business, intervenor employs a large force of drivers, mechanics, auditors, bookkeepers and miscellaneous clerical help and in this business this intervenor has an investment in the State of Texas of $61,000.00, substantially all of which is placed in jeopardy by reason of the matters and things set out in the legislative act, specifically plead in the bill of the [fol. 111] complainant herein.

Fourth. This intervenor further alleges that on February 1st, 1931, it paid to the State of Texas, its annual license fees, aggregating the sum of $2,864.30, and in consideration therefor, was granted a license by the State of Texas to use its equipment, aforesaid, in the conduct of its business for and during the current year ending January 31st, 1932, and in the conduct of said business, this intervenor is paying to the State of Texas, as gasoline tax, approximately the sum of $200.00 per month, which tax is used for the construction and maintenance of said highways of

the State of Texas over which this intervenor operates its vehicles in the conduct of its aforesaid business.

Fifth. This intervenor further alleges that under the terms and provisions of the law, as fully set out in the bill of complaint hereinbefore filed by the complainant, that all of the motor vehicles owned by this intervenor, purchased for its business aforesaid, will be virtually confiscated, as their use over the highways of the State of Texas is prohibited by the terms and provisions of the purported law, as set forth in the original bill of complaint, and that this intervenor and persons, similarly situated, will suffer irreparable damage in their business, for which there is no adequate remedy at law, which purported legislative act burdens the movement of interstate commerce and violated the 14th Amendment to the Constitution of the United States.

Wherefore your intervenor prays that it may be allowed to enter its appearance and become a party complainant in the above entitled cause to the end that it may participate, [fol. 112] so far as it may be proper, for subsequent proceedings, and steps taken therein, and for such other and further relief as may be proper.

J. B. Dudley, J. B. Barnett, 1101 Petroleum Building, Oklahoma City, Oklahoma, Solicitors for the Yellowcab Transit Company, a Corporation.

[fol. 113] *Duly sworn to by A. J. Harrell. Jurat omitted in printing.*

[File endorsement omitted.]

[fol. 114] IN UNITED STATES DISTRICT COURT

[Title omitted]

INTERVENTION OF TENNESSEE DAIRIES, INC.—Filed Sept. 2, 1931

To the Honorable Judges of the District Court of the United States in and for the Southern District of Texas:

Intervenor, Tennessee Dairies, Inc., permission of the court having been first asked and obtained, files this its pe-

tition of intervention herein and respectfully represents to the court:

I

Your Intervenor is a corporation, duly organized and existing under and by virtue of the laws of the State of Texas, having its principal business office in the city of Dallas, Dallas County, Texas.

II

That Respondents, T. Binford, et al., are all of those mentioned in the bill of complaint herein filed by Ed. Sproles.

III

That said respondents are chargeable under the laws of the State of Texas, or claim to be charged thereunder, with the enforcement of the terms and provisions of House Bill No. 336, Chap. 282, page 507, Acts of the Regular Session of the 42d Legislature, fully set out in haec verba in paragraph 19 of the bill of complaint herein filed, to which [fol. 115] reference is hereby made for all purposes.

IV

Intervener seeks to restrain the enforcement of the aforesaid act, on the grounds that said act, and particularly Sections 2, 3, 5, 7, 9 and 11 thereof are null and void, in that they deny Intervener the equal protection of the laws and deprive Intervener of its property without compensation, and without due process of law, contrary to the provisions of the Fourteenth Amendment to the Constitution of the United States.

V

Intervenor alleges that it is engaged in the business of gathering and marketing daily dairy products, and in connection with the operation of its business operates a fluid distributing business within the City of Dallas, Dallas County, Texas, and it purchases from over 400 farmer producers located in the counties of Dallas, Tarrant, Parker, Wise and Collin, paying for this milk a price based on the Dallas platform price, less the cost of handling and transportation. In connection with the purchase and dis-

tribution of this milk, Intervenor operates concentrating and cooling stations in the towns of Weatherford, Azle, Bridgeport, Decatur, Eulass and Farmersville, Texas. The average daily deliveries to the larger of these stations is as follows:

Weatherford	8,500 lbs.
Azle	10,000 "
Decatur	20,000 "
Eulass	22,000 "

In the operation of Intervenor's business, the producers of milk surrounding these stations make their deliveries twice daily to the receiving plants where the milk is cooled and discharged into large glass lined thermos tanks, these [fol. 116] tanks varying in capacity from 1,000 to 1,575 gallons each, a gallon of milk weighing approximately 8.4 pounds. With one exception the aforesaid tanks are mounted on semi-trailers, operated in connection with short wheel base tractor units. Intervenor alleges that the milk from the Weatherford station at the present time is hauled in a thermos tank with a capacity of 1,250 gallons, mounted on a Mack, chain drive, truck. The licensed carrying capacity of this unit is 9,000 pounds. This truck makes regular daily trips from Weatherford, Parker County, Texas, to Dallas, Dallas County, Texas, using State Highway No. 1, the round-trip distance being 140 miles.

At Azle, an inland town, seventeen miles northwest of Fort Worth, Intervenor has a 1,575 gallon thermos tank mounted on a semi-combination trailer-tractor unit. This combination is now hauling a little over 9,000 pounds, making one daily trip, using a local road, Azle to Fort Worth, and then from Fort Worth to Dallas, Texas, over Highway No. 1, round trip about one hundred miles.

At Eulass, an inland town, twenty-two miles west of Dallas, Intervenor has a 1,575 gallon thermos tank, mounted on a combination, semi-trailer-tractor unit, and Intervenor moves approximately 21,500 pounds of milk daily from this station, making two trips with this unit, the round trip being approximately 45 miles.

At Decatur, Intervenor has a 1,000 gallon tank, mounted on a semi-trailer-tractor unit, and normally Intervenor moves from 8,500 to 12,500 pounds of milk daily during the

winter season from the Decatur station, operating over Highway No. 2 from Decatur to Fort Worth, and over Highway No. 1 from Fort Worth to Dallas, the round trip being 146 miles.

VI

Intervenor alleges that all of the aforesaid equipment [fol. 117] was specially built and designed to handle considerably in excess of the seven thousand (7,000) pound load limit provided in House Bill No. 336, and represents a total original investment in the four pieces of equipment above mentioned of $29,665.00. That the application of the weight limit of seven thousand pounds intervenor has the alternative of junking this large and expensive equipment and substituting trucks and smaller tanks with a capacity of seven thousand pounds, replacing one of the large units with two of the smaller ones—or else operating the heavy equipment at approximately half capacity. In either event, it will be necessary for Intervenor to double the number of trips from each of the four stations, and this will practically double the hauling cost from these stations, as the distances are such that two drivers will be required where Intervenor now uses only one. Intervenor alleges that in making two trips over the aforesaid routes with lighter equipment designed to carry a less load than that above mentioned, about twice as much gasoline will be required to move the same load as is moved in one trip with the heavy equipment above mentioned. In other words, it is possible to move 12,000 to 13,000 pounds in properly designed equipment at practically the same cost that 7,000 pounds can be moved for. Intervenor alleges that the increased cost of moving this milk from the receiving stations to the Dallas plant under the terms and provisions of the aforesaid bill will be in the neighborhood of twenty (20) cents per hundred pounds, and this will mean an increased cost of from one hundred to one hundred and twenty dollars per day, depending on the amount of the milk that is being moved. Since Intervenor is buying the milk from producers at prices based on the Dallas platform quotations, less the cost of operation, such an increase in the cost of [fol. 118] transportation will necessarily be reflected in a lower purchase price to the outlying station producers. Intervenor alleges that the heavy equipment above described

is properly designed, properly tired and operated under speed limits of twenty-five miles per hour, all in accord with the present laws of the State of Texas now in force with reference to the operation of motor vehicles, and such equipment does not in any manner or way damage the highways over which it moves or unnecessarily imperil the traveling public. On this equipment aforesaid, Intervenor has paid a license fee to the State of Texas, which, in connection with the licenses upon Intervenor's other commercial truck equipment, aggregates for the current year the sum of $2,889.57 in license fees, and that Intervenor is each year paying to the State of Texas, as a gasoline tax, the sum of approximately $4,320.00, such tax being used for the construction and maintenance of state highways.

VII

Intervenor specially adopts all of those allegations contained in the bill of complaint herein filed, wherein it is alleged that the restrictions as to weight and limitations as to length specified by said act are unreasonble and discriminatory, and in connection therewith alleges that each and all of said discriminations pointed out by complainant in the aforesaid bill of complaint apply to this Intervenor.

Wherefore, premises considered, Intervenor prays that the Respondents, and each of them, together with their respective officers, agents, appointees, servants and representatives and their successors in office, and all other persons charged under the laws of the State of Texas with the enforcement of said motor vehicle law, approved June 11, 1931, be temporarily enjoined and restrained from enforc-[fol. 119] ing those provisions of said act, to-wit, Sections 2, 3, and 5, thereof, relating to dimensions and restrictions of loads, and that such Respondents be enjoined from arresting Intervenor, or Intervenor's servants, highway drivers, employees and representatives, because of any alleged violation of the length restrictions, contained in said motor vehicle law, or the weight limitations therein contaned; that said temporary injunction remain in force until the final hearing and determination of complainant's application and Intervenor's petition for a permanent injunction; and Intervenor prays that upon final hearing the tem-

porary injunction be made perpetual and permanent and the provisions of the motor vehicle law hereinabove complained of be held to be in conflict with and contrary to the Constitution of the United States, and therefore null and void, and that said provisions of said act be declared null and void, as depriving Intervenor and those similarly situated of their property without compensation and without due process of law, and as depriving Intervenor of the equal protection of the laws; and that this Intervenor may have such other and further relief in the premises as equity and justice may require and to the court may seem meet.

Frank H. Rawlings, Frank H. Rawlings, Chas. I. Francis, Attorneys for the Intervenor.

Duly sworn to by K. V. Lipscomb. Jurat omitted in printing.

[fol. 120] [File endorsement omitted.]

[fol. 121] IN UNITED STATES DISTRICT COURT

[Title omitted]

ORIGINAL ANSWER OF ALL RESPONDENTS—Filed Sept. 3, 1931

Now come the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the bill of complaint herein, said respondents say:

I.

Respondents admit the allegations contained in paragraphs 1 to 14 inclusive of complainant's bill of complaint.

II

Answering paragraph 15 of complainant's bill of complaint, respondents say that they are not informed as to the number of persons that are similarly situated as the complainant.

III

Answering paragraph 16 of complainant's bill of complaint, respondents say that they are not informed as to the amount of money in controversy in this suit.

Respondents admit that Ed Sproles, complainant, doing business under the name of Sproles Motor Freight Lines, is engaged in the business of operating a commercial motor freight line and maintains offices in the places alleged and that complainant in the conduct of his said business holds [fol. 122] himself out to the public as a carrier of goods, wares, and merchandise for hire, using the highways of the State of Texas between the cities alleged and intermediate points and that the complainant uses commercial vehicles, truck-tractors, trailers and semi-trailers in the conduct of his said business but respondents are not informed as to whether or not complainant's vehicles conform with the terms and provisions of the laws of the State of Texas now in force or as to whether all are licensed under the laws of the States of Texas as alleged, nor as to the number of vehicles which complainant has now in use in the conduct of his said business, nor as to the number of warehouses and offices complainant keeps, nor as to the amount of gross business of complainant, nor as to the number of persons employed by complainant, nor as to the investment of complainant, but respondents deny that any investment of complainant is in jeopardy by reason of the matters and things alleged by complainant.

IV

Answering paragraph 17 of complainant's bill of complaint, respondents say that they are not informed as to the amount of money which complainant paid to the State of Texas as annual highway license fees, nor as to what licenses were granted to complainant therefor, but Respondents say that regardless of what licenses may have been paid for by complainant, or granted to complainant, that said licenses are subject to revocation by the State through proper exercise of its police power at will and without any obligation to refund any amount to complainant.

Respondents are not informed as to the amount of money paid by complainant to the State of Texas as a gasoline tax.

Respondents are not informed as to the number of combinations of vehicles owned by complainant, nor as to the nature of the licenses thereon, nor for what use they were [fol. 123] purchased or to what use they are being put or as to whether the complainant is complying with the State highway regulations and other valid laws, nor are respondents informed as to whether or not complainant has any combinations of vehicles in excess of the total length of 45 feet but respondents say that it is their information that complainant does not have any vehicle exceeding the length of 35 feet, nor does complainant have any two vehicles ordinarily used by coupling same together which when coupled together exceeds a length of 45 feet.

Respondents are not informed as to the amount of the investment complainant has in the combination of vehicles.

Respondents are not informed as to the contracts which complainant has, nor as to what contracts complainant may be able to renew or extend but respondents deny that any provision of the act complained of will prevent complainant from performing said contracts and respondents particularly deny that any equipment he has is prohibited by the terms of the law complained of or that the same is rendered valueless or that the same cannot be profitably used for any other lawful purpose if the provisions of said law are enforced.

V

Answering paragraph 18 of complainant's bill of complaint, respondent's deny that any of comlainant's vehicles will be confiscated under the terms and provisions of the law complained of or that the use of any of said vehicles is prohibited thereby or that complainant will suffer irreparable damages and respondents deny that complainant has no adequate remedy at law and affirmatively say that complainant does have an adequate, complete and just remedy at law.

[fol. 124] Respondents deny that the law complained of violates Sections 3, 19 and 28 of Article I of the Constitution of the State of Texas and the Fourteenth Amendment of the Constitution of the United States.

Respondents admit that complainant's rates and charges as a common carrier are fixed by the regulation of the

State Railroad Commission but deny that any provision of the Act complained of will cause complainant such an additional amount as that no profitable load can be transported and respondents deny that complainant's business will thus be confiscated without compensation therefor.

VI

Answering paragraph 19 of complainant's bill of complaint, respondents admit the allegations contained therein but prefer that the whole act be before the Court and that the act shall stand and speak for the facts.

VII

Answering paragraph 20 of complainant's bill of complaint, respondents admit the allegations contained therein but prefer that the whole act be before the Court and that the act shall stand and speak for the facts.

VIII

Answering paragraph 21 of complainant's bill of complaint, respondents deny that the operation of any of the vehicles owned by complainant is prohibited by the act complained of and say that they are not informed as to whether complainant's vehicles are now operated in accordance with the laws of the State of Texas or the rulings of the public authorities: nor are respondents informed as to the training or efficiency of complainant's drivers but respondents deny that complainant's vehicles are so equipped or constructed that no whipping or other movement is possible by the semi-trailers or trailers and respondents deny that complainant's vehicles are operated over the highways of the State without interruption or danger to other [fol. 125] vehicles passing same and respondents deny that complainant's vehicles are operated absolutely safe in every respect.

Respondents are not informed as to whether or not any other vehicle will permit a fair profit to complainant, nor as to whether complainant makes a fair profit at the present time but respondents say that this is a matter directly connected with the charges made by complainant, which matter is entirely within the power of the Railroad Commission of Texas.

Respondents deny that there is no other type of vehicle which can be operated without loss to the owner thereof and without great danger to persons and property.

Respondents are not informed as to the cost to complainant of operating said vehicles or transporting goods thereon but again say that the cost of shippers is fixed by the Railroad Commission of the State of Texas;

Respondents deny that other methods of transportation of the kind and character of business conducted by complainant are wholly inadequate to meet the needs of the shipping public or that the shippers can secure better service for less price by the motor transportation method used by complainant than by any other method of transportation.

Respondents are not advised as to the value of any equipment use of which is forbidden by the terms of said act, but respondents deny that any of the complainant's equipment is so forbidden.

Respondents are not informed as to whether the use of complainant's vehicles will be rendered unprofitable by the provisions of said Act.

Respondents deny that the enforcement of said Act will result in irreparable damage and injury to the complainant and other similarly situated.

[fol. 126] Respondents deny that there is no adequate remedy at law and affirmatively say that there is a complete and adequate remedy at law.

IX

Answering paragraph 22 of complainant's bill of complaint, respondents deny that Section 2 of the Act complained of constitutes an unauthorized delegation of power to suspend the criminal laws of the State of Texas or is violative of Section 28, Article I of the Texas Constitution or is contrary to the Fourteenth Amendment of the Constitution of the United States and in this connection respondents say that under the provisions of said section the persons designated to grant such permits are not required, in granting the same, to exercise any legislative authority but are required merely to exercise a purely administrative duty, of determining whether or not the equipment or commodities desired to be transported can be reasonably dismantled

and in this connection respondents further allege that the act complained of is not in any other respect, as is more fully alleged herein and at other places, contrary to any provision of the Federal Constitution or any other proper Federal question raised. That this court has no jurisdiction or authority and it is not a proper province of this court to pass upon the question as to whether or not said section is violative of any provision of the Texas Constitution.

X

Answering paragraph 23 of complainant's bill of complaint, respondents deny that Section 2 of the Act complained of violates Section 1 of Article 14 of the Amendments to the Constitution of the United States or that Section 2 taken in connection with Section 3 of said Act violates said provision and in this connection respondents deny that farm tractors are excepted from the provision thereof and say that farm tractors are only excepted from the width provision, the same being sub-paragraph (a) of Section [fol. 127] 3 and that farm tractors, implements of husbandry including machinery used solely for purposes of drilling water wells and highway building and maintenance machinery do not constitute an exception from any provision of said Act as such but merely do so when and by reason of the fact that they are temporarily propelled and moved upon the public highways and respondents deny that there is no substantial difference in a farm tractor or other matters described hereinabove temporarily propelled and moved upon the public highways and a truck tractor used by complainant operated continously over the public highways all the way between Houston and Dallas; and respondents deny that there is no substantial difference between trucks and highway building and maintenance machinery and between highway building and maintenance machinery and temporarily propelled motor vehicles upon the public highways and trucks and other vehicles used by complainant; and respondents deny that there is any unreasonable distinction between some not justified in fact or in laws; and respondents deny that there is no justified distinction between machinery used solely for the purpose of drilling water wells and machinery or trucks or vehicles used by complainant in the conduct of his business and others simi-

larly situated: and in this connection respondents say that there is a necessity for the transportation of machinery for the purpose of drilling water wells of a different character and kind that that of complainant's vehicles and respondents say that there is a substantial difference between machinery used solely for drilling water wells and that used for drilling oil wells; and respondents in this connection further allege that the transportation of such water well machinery is limited by the terms of this Act to a temporary movement upon the highways which in itself constitutes a valid and reasonable basis for the classification as distinguished from the equipment used by this complainant, by reason of which facts there is a valid distinction as to the [fol. 128] amount of damage done to the highways and as to the safety of the highways making this classification reasonable and not arbitrary; and respondents deny that there is no distinction between the equipment used by complainant and implements of husbandry temporarily propelled and moved upon the highways and respondents deny that the exceptions enumerated creates a group or class of persons engaged in using the highways of the State of Texas not subject to the penalties prescribed by the Act in question, in violation of the Fourteenth Amendment to the Constitution of the United States, as well as Sections 3, and 19 of Art. I of the Constitution of the State of Texas, or that such act gives to any special class the privileges in the use of the highways not accorded to this complainant and respondents further deny that there is no distinction between the use to which complainant puts the said highways and the use to which the excepted class puts the same under the exceptions contained in said exception, Respondents further deny that the act and, particularly Sections 2 and 3 thereof, are discriminatory or accord any privileges to any class not accorded to this complainant or accord any privileges to any one other than complainant similarly situated or that the use to which each puts the highways is substantially the same.

XI

Answering paragraph 24 of complainant's bill of complaint, respondents deny that Section 2 of said Act is indefinite, vague, uncertain and affirmatively allege that the

Legislature fixed a standard definite and certain by which the designated agents and other persons must determine whether or not such a permit shall be granted.

XII

Answering paragraph 25 of complainant's bill of complaint, respondents deny that Section 2 of said Act is invalid under the provisions of the Fourteenth Amendment [fol. 129] to the Constitution of the United States by reason of the provisions of Section 7 of said Act and respondents deny that the Legislature thereby made an unreasonable classification which is arbitrary and discriminatory as against the complainant and respondents deny that the provisions of said Section 7 are not equally as applicable to this complainant as to any other person and respondents deny that any other persons can traverse the route which complainant customarily traverses under the provisions of Section 7 with loads exceeding 7,000 pounds after said 7,000 pound provision becomes effective, which provision will not become effective until January 1, 1932, and respondents deny that said Section 7 makes an unreasonable distinction between those carrying goods in competition with the railroads and those serving the railroads by bringing goods, wares and merchandise to them for carriage, and respondents deny that there is any distinction under said section which is not permissable under the provisions of the Fourteenth Amendment to the Constitution of the United States, or that any distinction made by said section has no relation whatever to the object of the bill as stated in Section 15 thereof or that said section gives a special privilege to a favored few who serve the railroads as against those who compete with the railroads without reference in any way to highway safety; and respondents further deny that the terms of the act result in an unreasonable, arbitrary and unfair discrimination and subject the bill to the condemnation of Section 1, Article 14 of the Constitution of the United States or to Article I of the Texas Constitution; and in this connection respondents affirmatively allege that the provisions of said Section 7 are applicable to every one alike and do not extend any special privileges to any person or class of persons and, further, that said provisions limit the haul allowed thereby to the shortest practicable route or distance

over the highways under conditions where there exists actual necessity for such transportation and that the opera-
[fol. 130] tions permissable under said section are necessarily and actually only in areas of small traffic congestion whereby said provision constitutes a valid basis of classification.

XIII

Answering paragraph 26 of complainant's bill of complaint, respondents deny all of the material allegations in said paragraph and particularly deny that the provisions complained of therein make clear the purpose of this act of the Legislature is not to protect the public and highways of the State of Texas but to grant a special privilege to those who serve the common carriers against those who are competing with such common carriers and to insure that the goods, wares and merchandise of the public should be shipped by railroad and not by truck and that the public is thereby deprived of the advantage of transporting property by truck, and in this connection, respondents say to the Court that the words of said Section 7 of said bill as to loading or receiving points are "common carrier" which would include a common carrier by truck as well as by rail.

Respondents deny that complainant's business will be destroyed as a result of the provisions complained of.

Respondents admit that certain provisions of the act complained of are not operative within any incorporated cities or towns but de*nies* that such provisions make it clear that the purpose, object and effect of the legislat*ure* was and is not the protection of the public or the highways of the State in general and respondents deny that the purpose was to restrict and hamper the competition of railroads to such an extent as that it would be impossible to operate profitably truck transportation companies in competition to such railroads.

Respondents deny that operators carrying to railroads are favored as against those such as complainant and again say that the words used in connection with said Section 7 are "common carrier receiving and loading point" which terms include complainant as well as railroads.

[fol. 131] Respondents deny that Section 2 taken in connection with Section 7 of said Act is discriminatory, arbitrary or unreasonable by reason of the provisions with re-

spect to length therein but respondents say that said Section 7 applies not only to hauls to railroad receiving points but to "common carrying receiving and loading points" and respondents deny that any specially privileged class is created by the provisions of said act complained of and, on the contrary, affirmatively says that the provisions of Section 7 and Section 2 of said bill by their terms apply to all persons and classes of persons and respondents deny that the destination of the load in itself is the test which guages the legality or illegality of certain means of transportation and that the purpose and effect of such law is not the protection of the highway but the elimination of truck competition, or that said provisions create a discrimination forbidden by the Fourteenth Amendment to the Constitution of the United States and in this connection respondents affirmatively say that the provisions of Section 7 are so made as to lessen the heavy traffic upon the highways to restrict the heavy traffic upon the highways to the less congested areas and to limit the hauls of such traffic to the shortest practicable distance over the highways and only under conditions where such hauls are necessary, all of which factors in themselves show that said provisions constitute a valid regulation in the interest of the protection of the highways and safety upon the highways and valid exercise of the police power of the State.

XIV

Answering paragraph 27 of complainant's bill of complaint, respondents deny that Section 3 of said Act is unreasonable, arbitrary, discriminatory and without any substantial relation to the purpose of said law and respondents affirmatively say that farm tractors are excepted from the provisions of section 3 of said Act only in so far as the [fol. 132] width provision thereof is concerned and that implements of husbandry and highway building and maintenance machinery are only excepted where temporarily propelled and moved upon the public highways and respondents deny that the use which complainant makes of the highways is in any manner similar to those exceptions complained of and say that the complainant is continuously upon the highways operating between the city of Houston and Dallas, Texas, and is not temporarily there. Respondents

further deny that road contractors can lawfully operate trucks exceeding the weight provisions provided for in this bill and, in this connection, say that said provisions complained of is a reasonable and proper classification valid as against any attack under the provisions of the Fourteenth Amendment to the Constitution of the United States.

XV

Answering paragraph 28 of complainant's bill of complaint, respondents deny that Section 3 of said Act, and particularly subdivision (c) thereof makes a classification which is unreasonable, arbitrary and discriminatory in that it provides that within the limits of an incorporated city or town vehicles exceeding the length provisions of Section (c) may be operated. Respondents deny that subdivision (c) of said Section 3 permits operations without any load restrictions.

Respondents deny that such an exception as contained in Section 3 subdivision (c) of said Act has no relation to the alleged object or purpose of said legislation, to-wit, the protection of the public, the safety of the public on the highways and the protection of the highways of the State and respondents say that said exception constitutes a reasonable and proper classification and is not discriminatory or a violation of any provision of the State or Federal Constitutions.

XVI

Answering paragraph 29 of complainant's bill of complaint, the respondents admit that parties exclusively [fol. 133] within city limits are excepted from said provisions but deny that such exceptions constitute an unreasonable and unfair discrimination or that said provisions have no real relation to highway protection and respondents say that conditions of traffic, kinds and character of highways, congestion of traffic and other factors show that such exceptions are reasonable and fair and constitute valid exceptions.

Respondents deny that farmers, oil well drillers and highway contractors may use the same highways without restrictions as to dimension of vehicles and say that there is no person or class of persons extended any special privilege under any of the terms of the Act complained of.

XVII

Answering paragraph 30 of complainant's bill of complaint, respondents deny that subdivision F of Section 3 violates the Fourteenth Amendment to the Constitution of the United States or undertakes to make a classification which is unreasonable, arbitrary and discriminatory and without any substantial relation to the substance of the Act but makes a distinction between commodities which are boxed or bound and others not boxed or bound and respondents deny that substantially the same provisions were contained in House Bill 628.

Respondent- further denies that this complainant has in any way been restricted or hampered in the conduct of his business by the provisions of this section and that the prohibition therein contained is in any way related to highway protection. In this connection respondents affirmatively allege that Subdivision (f) of Section 3 of the Act herein complained of is applicable to any and all commodities, whereas the provisions of House Bill 628 applied only to cotton and, further, respondents allege that the provisions of subdivision (f) of Section 3 of the bill complained of are applicable to all persons and classes of persons under any and all conditions of transportation where [fol. 134] the bulk and weight of the commodity transported are within the terms of said provision and that any and all commodities of a bulk and weight above thirty cubic feet and 500 pounds in numbers greater than those prohibited under the terms of said provision when transported over the public highways constitute a dangerous hazard to the travelling public and to all persons upon the highway by reason of which fact said provision constitutes a reasonable and valid classification.

XVIII

Answering paragraph 31 of complainant's bill of complaint, respondents deny that Section 5 of the Act is unreasonable, arbitrary and discriminatory and in violation of the provisions of the Fourteenth Amendment to the Constitution of the United States either for the reason that it makes a distinction between commercial motor vehicles as defined in said Act and motor busses, or for the reason that said provision is applicable only outside of the limits

of an incorporated city or town. In this connection respondents allege that there are many factors involved in the transportation of property by commercial motor vehicle including many others, customary equipment and necessary method of loading to justify and make reasonable and separate restrictions as to commercial motor vehicles and busses and in this connection respondents further allege that customarily busses do not carry as much as 7,000 pounds as a natural load as they are * operated over the highways of the State of Texas and * further allege that as a matter of fact the public * not been and are not likely to be damaged to any * same extent by the operation of busses as by the operation of commercial motor vehicles and that the public safety on the highway has not been endangered to anything like the same extent by motor bus operation as by the operation of commercial motor vehicles.

[fol. 135] Respondents further deny that Section 5 taken in connection with Section 7 of the bill is violative of the Fourteenth Amendment to the Constitution of the United States and that the provisions of either of said sections separately or together are not clearly applicable to all parties engaged in any and all kinds of transportation and to all classes of persons and respondents say that said provisions are c-early application to any other person than complainant carrying freight from Houston, Texas, to Dallas, Texas.

Respondents further allege in this connection that the provisions of Section 5 of the Act complained of do not take effect until January 1, 1932, by reason of which fact complainant is not threatened at this time with any arrest, multiplicity of suits or other grounds affording this complainant the right to equitable relief at this time by this Honorable Court.

XIX

Answering paragraph 32 of complainant's bill of complaint, respondents deny that the highways over which he operates his trucks are designed and constructed so that a gross weight of at least 30,000 pounds can be carried on

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[*Illegible.]

any vehicle or combination thereof and operated without damage to the highways or interference with the safety of the travelling public.

Respondents deny that it has been demonstrated by any experiments that vehicles carrying 10,000 pounds per wheel where the vehicle has a tire spread proportioned to the gross weight of not exceeding 600 pounds to the inch of rubber can be operated over most of the highways operated over by complainant without damage to the highway. Respondents deny that vehicles operated by complainant do not in truth and in fact injure said highways or endanger the public in the manner of their operation.

[fol. 136] Respondents are not informed as to whether said vehicles comply with all valid weight and dimension regulations now in force in Texas.

Respondents deny that the operations of complainant in truth and in fact are not injurious to the highways and say that the Legislature in each and every provision of said bill validly exercised the police power.

Respondents deny that the effect of such legislation is not to afford any additional protection and deny that the purpose is simply to foster the business of the railroads as a favored class to the detriment of truck operators and respondents deny that complainant and those similarly situated are thereby denied the protection of the law contrary to the Fourteenth Amendment of the Constitution of the United States.

Respondents further deny that the provisions of said act are contrary to said Amendment and grants privileges to any favored class or grants any privileges not accorded to complainant.

Respondents deny that gross weight of vehicles is the important factor in the legislation designed to protect highways and in this connection respondents say that weight of vehicle, weight of load, weight of unsprung load, proportion of unsprung load to sprung load, dimension and character of springs, character and nature of tires, location and arrangement of axles, position of vehicle on the road, character and type of road, are merely some of the factors going to the protection of highways. That it would obviously be impossible to form any workable law subject to enforcement measuring the true engineering effect of each factor and road destruction by commercial motor

vehicles. That the provisions of this Act complained of in the best conceivable manner taking into consideration the most important of these factors without, at the same time confiscating any property whatsoever.

[fol. 137] Respondents deny that any provision of said Act requires any operator to carry any commodity to a railroad receiving point and points out that in the only place in said act where the words "receiving point" are used the term used in connection therewith is "common carrier." That complainant by his own allegation is a common carrier by reason of which there can be no discrimination in this regard as to this complainant.

Respondents deny that the enforcement of the act complained of will ruin or destroy complainants business or transportation facilities.

Respondents further deny each and every other material allegation in said paragraph.

XX

Answering paragraph 33 of complainant's bill of complaint, respondents deny that Section 9 of said Act violates the Fourteenth Amendment to the Constitution of the United States or creates a classification which is unreasonable or arbitrary or discriminatory, or does not have any substantial relation to the purposes of said Act.

Respondents deny that there is no more danger to the public or damage done to the highways by a commercial vehicle operating at 40 miles per hour where its gross weight exceeds 6,000 pounds than in the case of a motor bus of like weight at the same rate of speed and respondents deny that such provision is grossly discriminatory or violates the equal protection clause of the Constitution of the United States set forth in the Fourteenth Amendment thereto. In this connection respondents say that there is a reasonable basis in fact for making a distinction in speed between motor busses and commercial motor vehicles and trucks and that it is a reasonable basis of fact in distinguishing as to speed between vehicles of a gross weight of 6,000 pounds and over and those of 6,000 pounds and under, all of which facts have a direct relation to damage to the highway and safety to the public.

[fol. 138] XXI

Answering Paragraph 34 of complainant's bill of complaint, respondents deny that any of the classifications enumerated in complainant's bill are unreasonable, arbitrary or discriminatory as to this complainant in any of the respects alleged or that any provision singly or any two or more provisions collectively violate the Fourteenth Amendment to the Constitution of the United States. Respondents say that they are not informed as to what contracts complainant has but deny that any provision of said Act will arbitrarily or unreasonably interfere therewith or that complainant or any one similarly situated will suffer irreparable injury or damage and respondents deny that complainant has no adequate remedy at law and affirmatively say that complainant does have a full, complete and adequate remedy at law. In connection with the allegations contained therein that complainant has certain existing contracts, respondents affirmatively allege that if any of said contracts are in any way affected by reason of any of the provisions of the Act complained of the said provisions constitute valid enactments by the State of Texas under its police power by reason of which no provision of the Constitution of the United States is infringed.

XXII

Answering paragraph 35 of complainant's bill of complaint, respondents deny that complainant will be in any way prevented by the terms of said Act from keeping and maintaining his schedules as a common carrier or that any of the vehicles which he has are prohibited from us by the terms of said Act or that complainant will be forced to stop the conduct of his business, however valuable or lucrative, by any of the terms of said Act or that said Act or any part thereof is illegal or void because of contravention of the Fourteenth Amendment to the Constitution of the United States or to the several provisions of Article I of the Constitution of the State of Texas.

[fol. 139] XXIII

Answering paragraph 36 of complainant's bill of complaint, respondents deny that the act complained of is not

within the police power or that it deprives the complainant of his property without due process of law or denies to him the equal protection of the law that complainant does not have any adequate remedy at law and respondents affirmatively allege that each and every provision of said act is within the police power of the State of Texas.

XXIV

Answering paragraph 37 of complainant's bill of complaint, respondents admit that said Act is now the law of the State of Texas having become effective August 22, 1931, with respect to all of its provisions except those of Section 5, which will become effective on January 1, 1932.

Respondent also admits that complainant's business is such as that he must, as a common carrier keep and maintain regular routes and schedules and that if he does not do so his certificate is subject to cancellation by the Railroad Commission of the State of Texas but respondents deny that complainant's business will be destroyed or affected or that he can not maintain said schedules and services under the terms of said Act.

Now come respondents and for affirmative allegations herein show to the court as follows:

I

Respondents affirmatively show that at the time of the passage of the bill herein attacked, and at the present time, truck traffic has increased to such an extent upon the highways of the state, and was being conducted in such a manner upon the highways of this state, and was so improperly regulated that said truck transportation over the highways [fol. 140] of the state constituted a traffic menace upon such highways, endangered the lives of the general traffic of the public upon the highways, and resulted in undue congestion of the highways and interfered with the establishing of a coordinated and reasonable use of the highways by all kinds of vehicle traffic.

Respondents show that transportation of trucks over the highways of the state are being conducted in such a manner as to make absolutely necessary the enacting and enforcing of reasonable regulations looking toward the reasonable control of trucks over the highways of this state.

Respondents show that at the time of the passage of the bill in question passage of such bill or some similar bill was absolutely necessary to protect and preserve the highways of this state to prevent undue traffic congestion upon such highways, to protect the lives and limbs of the public upon such highways, and to establish and preserve a reasonably coordinated use of the highways by all kinds of vehicle traffic.

II

Respondents show that each and every provision of the bill under attack was passed for the purpose of and enforcement will result in the preserving of the highways of this state from undue destruction, the protecting of the highways from undue highway congestion, protecting of the lives and limbs of traffic upon the public highways, and the establishing and maintaining of a reasonably coordinated use of the highways by the general traveling public.

Respondents show that there is no exception contained in the bill granting different privileges of placing different restrictions upon any given class that is not a proper and due exception and one justified by the facts of that particular case.

[fol. 141] Respondents show that there is no provision of the bill that is in any manner contrary to the constitution of the United States of America or the constitution of the State of Texas.

III

Respondents show that complainant herein may not be heard to complain and has no grounds to complain because of any claimed discrimination between the restrictions in this act governing the transportation of well drilling machinery and the restrictions governing the transportation of oil drilling machinery for the reason that complainant in no manner pleads or shows that he has ever at any time transported or ever intends to transport either oil well drilling machinery or water well drilling machinery, and in this connection respondents affirmatively pleads as a matter of fact that the complainant herein has never at any time in the past engaged in the transportation of either water well machinery or oil well machinery, and that he does not intend to do so in the future.

Respondents further show in this connection that under the facts and circumstances as plead by complainant himself with reference to the manner in which his business is conducted, it is and would be impossible for him to transport either oil well drilling machinery or water well drilling machinery.

Respondents affirmatively plead that complainant is not in any class that would in any way be affected by the restrictions in regard to the transportation of either oil well machinery or water well drilling machinery.

IV

Respondents further affirmatively plead that the conditions with regard to the traffic over roads between points of origin and destination and comman carrier loading or receiving points are altogether different from conditions [fol. 142] obtaining over roads and highways between common carrier loading and receiving points, that the volume of traffic over these two different classes of roads is altogether different, that the use of these two different classes of roads by the general traveling public is altogether different, and that in short the exceptions contained in Paragraph VII of this bill in favor of transportation of freight between certain points of origin and destination and common carrier loading and receiving points are due and proper exceptions and objections wholly warranted by the facts obtaining with reference to the transportation of such freight over such routes and that the granting of additional privileges to the transportation of freight over such routes is in no manner unreasonable or arbitrary or discriminatory or inconsistent with the Constitution of the United States of America or the Constitution of the State of Texas.

Respondents affirmatively show in this connection that because of the conditions obtaining both with regard to the character of roads, the frequency of traffic over the roads, the traffic congestion on the roads and the use of the roads by the general traveling public, the exceptions granted in favor of the transportation of freight from and to points of origin and destination and from and to common carrier loading and receiving points are proper and lawful and reasonable.

V

Affirmatively pleading with reference to Section 3, Paragraph F of the bill in question, respondents show that this provision applies to all commodities of every kind and character transported by motor truck over the highways of the state in boxes, containers or bindings weighing more than 500 pounds and containing more than 30 cubic feet. [fol. 143] Further, in this connection, respondents further affirmatively plead that the carriage upon any truck of more than fourteen of any such units as above described is dangerous and constitutes a traffic hazard upon the highways and tends to cause traffic congestion upon the highways and tends to interfere with a reasonable and proper and safe use of the highways by the general public. In this connection respondents affirmatively show that a load of more than fourteen units of the kind above described is an unwieldy load, a topheavy load, a load that is hard to handle upon the highways and a load which cannot be safely driven over to the side of the highways and especially to the sides of the curbs on the highways in order to permit other traffic to pass with a reasonable degree of safety.

Further, in this connection, respondents affirmatively show that because of the fact that it is the usual custom among truckers to truck cotton at a rate of so much per bale instead of so much per hundred pounds, that a general practice has grown up over the state whereby shippers of cotton by truck are causing the sizes of the bales of cotton to be increased and that, in this way the traffic dangers above referred to in this paragraph are being added to and increased by increasing the size of the units of cotton; that is, the bales of cotton that are being transported over the highways of the state in such great numbers.

Respondents affirmatively plead in this connection that the enforcement of the provisions of Section 3, Subdivision F, of this bill will materially tend to correct the evils pointed out in this numbered paragraph and will materially tend to preserve the highways and protect the highways against undue traffic congestion and protect the life and limb of travellers on the highways, and to preserve and maintain a reasonably coordinated use of the highways by the general traveling public.

[fol. 144] VI

Respondents affirmatively show that motor busses in the state of Texas are operated in far less numbers than motor trucks over the highways of this state; that because of the fact that all motor busses are common carriers the operation of such motor busses is better regulated by the regulatory bodies of this state than is the operation of motor trucks over the highways of the state; that as a result thereof the drivers of motor busses are as a class more intelligent and better skilled than the average driver of motor trucks; that the equipment of motor busses with regard to brakes, etc., is of a much higher order and is much more efficient than the equipment on the average motor truck; and that for the above reasons it is reasonable and proper and safe to permit the motor busses operating over the highways of the state to operate at a higher rate of speed than the average truck operating over the highways of the state, and also to permit the motor busses of the state to carry heavier loads than the motor trucks. In this connection respondents further affirmatively show that the welfare of the general public demands that the motor busses of the state be permitted to carry larger loads and to operate at a higher rate of speed and under different operating conditions than the trucks that are being operated over the highways of the state.

VII

Respondents affirmatively plead that the 7,000 pound weight limit contained in the bill under attack is a reasonable rate limit taking into consideration the different classes and kinds of roads in this state over which motor trucks are operated.

[fol. 145] Respondents show that provisions of this bill must of necessity apply to the general operation of trucks over all the roads of the State of Texas, and that it would not be reasonably possible to enact a regulatory bill of this kind that could apply especially to the operations of any particular operator of motor trucks.

Respondents deny that the 7,000 pound weight limitation is unreasonable even with regard to the trucks operated by

the complainant over the roads referred to in his petition, but respondents affirmatively plead that the provisions of the bill are reasonable taking into consideration the general roads of the State of Texas, and that the complainant has no legal right to be heard or to claim that the provisions of the bill are unreasonable because of the fact that he as one operator, operates only over a certain class of roads.

Respondents affirmatively plead that the effect of permitting the trucks of this state or of permitting any combination of vehicles operated over the roads of the state to take more than a load of 7000 pounds would result in undue and unreasonable destruction of the roads of the State.

VIII

Respondents affirmatively plead that the fixing and determination of the height, width, length, speed and net load of motor trucks or commercial vehicles operated over the highways of this state is a matter solely and exclusively within the police power of the State of Texas, and that the Legislature of the State of Texas has the sole and exclusive power to fix and prescribe restrictions in regard to these matters and with regard to the other matters provided for in the bill complained of.

Wherefore respondents pray that the relief asked for by Complainants herein be in all things denied and that the temporary injunction prayed for be denied and that the act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover from the complainants all costs herein expended.

James V. Allred, Attorney General of Texas; T. S. Christopher, Assistant Attorney General; Elbert Hooper, Assistant Attorney General, Solicitors [fols. 146-162] for the Respondents. W. L. Cook, Albert Reed, of Council.

Duly sworn to by T. S. Christopher. Jurat omitted in printing.

[File endorsement omitted.]

[fol. 163] IN UNITED STATES DISTRICT COURT

[Title omitted]

RESPONDENTS' ANSWER TO INTERVENOR'S PETITION OF INTERVENTION (Bull-Stewart Equipment Co., Inc., Intervenor)—Filed September 9, 1931

Now come the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the intervention of Bull-Stewart Equipment Company, Inc., said respondents say:

I

Respondents admit the allegations contained in Paragraphs I, II and III of said intervention.

II

Answering Paragraph IV of said intervention, respondents admit the ground upon which intervenor seeks to restrain the enforcement of said Act, but deny that any portion of said Act is null and void or denies intervener the equal protection of the laws or deprives it of its property without compensation or without due process of law or is contrary to the Fourteenth Amendment to the Constitution of the United States.

[fol. 164] III

Answering Paragraph V of said intervention, respondents say that they are not informed as to the matters and things alleged therein except as to the following:

Respondents deny that intervener's equipment is designed to transport said automobiles over the highways of Texas with safety; that intervener's property will be confiscated without due process of law or without compensation if respondents are permitted to enforce the terms and provisions of the Act or that any of the provisions of said Act are in violation of the provisions of the Fourteenth Amendment to the Constitution of the United States.

IV

Respondents here now adopt all of these allegations contained in their answer to the original bill of complaint herein and incorporate same herein the same as if set out herein in full.

V

Answering Paragraph VI of said intervention, respondents deny that any of the restrictions as to weight or limitations as to length specified by said Act are unreasonable or discriminatory and respondents also deny that each and every discrimination alleged in the original bill of complaint are applicable to this intervener.

Come now respondents and for affirmative allegations herein show to the Court as follows:

1. Respondents herein adopt all of their affirmative allegations contained in their original bill of complaint herein and incorporate same herein the same as if set out herein in full.

[fol. 165] 2. Respondents here now show to the Court that this intervener, according to its own allegations, is operating vehicles over the public highways of Texas, which vehicles are in excess of 45 feet in length. In this connection, respondents would show unto the Court that each of intervener's units consist of a truck, tractor, to which is attached a trailer, and that the trailer in each of such units is in excess of 35 feet in length, by reason of which facts intervener is, and according to his own allegations, has been operating a piece of equipment over the highways of Texas in violation of Chapter 42, General Laws of the State of Texas, 41st Legislature, Second Called Session.

3. Respondents, therefore, show unto the Court that as to this intervener the length provision, House Bill No. 336 can not and does not in any way violate any of the provisions of the Fourteenth Amendment to the Constitution of the United States.

4. Further, this intervener having been operating in violation of law, is not entitled to relief at the hands of this Court.

Wherefore respondents pray that the relief asked for by intervener herein be in all things denied and that the temporary injunction prayed for be denied and that the act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover from the intervener all costs herein expended.

James V. Allred, James V. Allred, Attorney General of Texas; T. S. Christopher, T. S. Christopher, Assistant Attorney General; Elbert Hooper, Elbert Hooper, Ass't Att'y General, Solicitors for the Respondents. W. L. Cook, Albert Reed, of Counsel.

[fol. 166] *Duly sworn to by T. S. Christopher. Jurat omitted in printing.*

[File endorsement omitted.]

[fol. 167] IN UNITED STATES DISTRICT COURT

[Title omitted]

RESPONDENT'S ANSWER TO INTERVENTION OF JNO. B. BARBOUR TRUCKING CO., INC.—Filed Sept. 9, 1931

Now comes the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the intervention of Jno. B. Barbour Trucking Company, Inc., said respondents say:

I

Respondents admit the allegations contained in paragraphs I, II and III of said intervention.

II

Answering paragraph IV of said intervention, respondents admit the ground upon which intervenor seeks to restrain the enforcement of said Act but deny that any portion of said Act is null and void or denies intervenor the equal

protection of the law or deprives it of its property without compensation or without due process of law or is contrary to the Fourteenth Amendment to the Consitution of the United States.

III

Answering paragraph V of said intervention, respondents say that they are not informed as to the matters in controversy or as to the other matters alleged in said paragraph.

[fol. 168]

IV

Answering paragraph VI of said intervention, respondents deny that substantially one-half of the amount invested by intervenor will be lost and destroyed by reason of any of the provisions of House Bill 336 being enforced against this intervenor, or that intervenor's business will be virtually destroyed or his property taken without compensation or due process of law if the weight limitations prescribed by said Act are enforced against it.

Respondents are not informed as to what contracts intervenor has or can make in the future but denies that intervenor has any contract right which is infringed unconstitutionally under said Act or that his profit under any contract will be probably destroyed by the enforcement of the weight provision of said Act.

In this connection respondents say that the weight provision of said Act does not become effective until January 1, 1932, by reason of which facts intervenor is not entitled to equitable relief in the manner prayed for at this time.

V

Answering paragraph VII of said intervention respondents deny that the intervenor's business is being irreparably injured or damaged or that it has no adequate remedy at law or that any of the provisions complained of are null and void or violate any of the constitutional provisions relied upon and in this connection respondents say that intervenor has a full, complete and adequate remedy at law.

VI

Answering paragraph VIII of said intervention, respondents deny that the equipment used by intervenor does not

damage the highways or impair the safety of the public and respondents deny that same do not injure the highways [fol. 169] any more than implements of husbandry including machinery solely for the purpose of water wells, highway building and maintenance machinery temporarily propelled and moved upon the highway and respondents deny that the last mentioned implements are permitted, under the terms of said Act, to use the highways without limitation, in the same manner that intervenor uses his vehicles. Respondents admit that the length provisions of said Act do not apply to the operations wholly within incorporated cities or towns and that the said Act does not apply to vehicles drawn by horses and mules but, in this connection, respondents say that such distinctions are proper and valid classifications, justified in fact and in law in that they do not deny intervenor the equal protection of the laws or any other guarantee of the Constitution.

VII

Answering paragraph IX of said intervention, respondents deny that the provisions of Section 3 (c) of said Act are arbitrary or discriminatory and have no relation to highway protection or the protection of the travelling public or that the purpose and intent of said law is not the protection of the highways but to discriminate in favor of the railroads and horses drawn vehicles giving to the latter a monopoly upon short haul transportation and to the former a monopoly upon long haul transportation or that said provisions deny intervenor the equal protection of the laws; and in this connection, respondents say that the provisions of Section 3 (c) and Section 7 of said Act constitute valid classifications and apply to all persons and classes of persons alike and particularly with respect to Section 7, respondents say that said Section is applicable to "common carriers" and not railroads receiving at loading point.

[fol. 170] VIII

Answering paragraph X of said intervention, respondents say that they are not informed as to the amount of license fees paid by intervenor but, regardless of how much of such fees were paid or what licenses were issued, re-

spondents say that such licenses are irrevocable at the will of the State.

Respondents deny that the provisions of Section 3 (c) constitute an unlawful interference with interstate commerce.

Respondents are not informed as to what profit intervenor makes or expects to make out of any of his operations.

Respondents deny that the net load of a vehicle has no relation to the damage such vehicle may do to the highways. In this connection respondents say that net load is the prime factor in damaging highways. That gross weight, size and character of tires, type of spring, proportion of unsprung weight, proportion of sprung weight, speed, weight per wheel, weight per axle, character of subgrade, type of pavement and position of vehicle upon the highway are all factors in highway damage but that those provided for under the weight provisions of the Act complained of, as there provided for, constitute the more important ones and, as there provided, are best designed for the protection of the highway without at the same time confiscating and making useless much heavy equipment which would be the case if gross weight had been provided as contended for by intervenor.

IX

Answering paragraph XI of said intervention, respondents deny that any of the restrictions as to weight or limitation as to length as provided by said Act are unreasonable or discriminatory and respondents also deny that each and every discrimination alleged in the original bill of complaint are applicable to this intervenor.

[fol. 171]

X

Respondents here now adopt all of those allegations contained in their answer to the original bill of complaint herein and incorporate the same herein the same as if set out herein in full.

Now comes respondents and, for affirmative allegations herein, adopt all of those affirmative allegations contained in their answer to the original bill of complaint and incorporate same herein the same as if set out herein in full.

Wherefore respondents pray that the relief asked by intervenor herein be in all things denied and that the temporary injunction prayed for be denied and that the act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover of and from the complainants all costs herein expended.

James V. Allred, James V. Allred, Attorney General of Texas; T. S. Christopher T. S. Christopher, Assistant Attorney General; Elbert Hooper Elbert Hooper, Assistant Attorney General, Solicitors for the Respondents. W. L. Cook, Albert Reed, of Counsel.

Duly sworn to by T. S. Christopher. Jurat omitted in printing.

[fols. 172-183] [File endorsement omitted.]

[fol. 184] IN UNITED STATES DISTRICT COURT

[Title omitted]

RESPONDENTS' ANSWER TO INTERVENTION OF W. T. STEVENS —Filed Sept. 9, 1931

Now come the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. G. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the intervention of W. T. Stevens, said respondents say:

I

Answering the first unnumbered paragraph of said intervention, respondents say they are not informed as to whom the questions and matters at issue according to the allegations of said intervention are of common, general and mutual interest but respondents say that regardless of who may have common interest with said intervenor, that their interests cannot be adjudged in this suit because of the

impossibility of showing or knowing of the particular facts with respect to each such person and whether or not such facts would support the equitable relief prayed for.

II

Answering paragraph I in said intervention, respondents admit that the allegations made therein are true except that they say that they are not informed as to the business of the intervenor.

[fol. 185] III

Answering paragraph II of said intervention, respondents say thay are not informed as to the matters and things alleged therein except as alleged in paragraph I of this answer.

IV

Answering paragraph III of said intervention, respondents say that they prefer that the Act speak for itself as to its provisions.

Respondents deny that the operation and enforcement of said Act will compel intervenor to abandon and discontinue the further pursuit of his business or that any provision of said Act now in effect will prevent intervenor from carrying loads of more than 13 bales of uncompressed cotton per load or that the carrying of more than 13 bales will be in violation of the penal laws of the State of Texas under said Act and, in this connection, respondents say that uncompressed cotton can without difficulty be baled weighing more than 500 pounds and with less than 30 cubic feet therein by the typical gin now in operation in this State and that obviously *that* cotton may be baled with less than 500 pounds per bale therein in either of which cases any number of said bales of uncompressed cotton might be carried per load without the same constituting a violation of Section 3 (f) of said Act.

V

Answering paragraph IV of said intervention, respondents here adopt their allegations in reply to paragraphs 2, 3, and 4, 8, 9, 11, 12 and 14 of the original bill of complaint filed herein and incorporate the same herein as if set out herein in full.

[fol. 186]

VI

Answering paragraph V of said intervention, respondents say that they are not informed as to the provisions of any agreement intervenor may have with respect to transportation of uncompressed cotton over the highways of this State, or as to the other matters and things alleged in said paragraph.

VII

Answering paragraph VI of said intervention, respondents here now adopt their allegations in reply to paragraphs 19 to 34 of the original bill of complaint and incorporate same herein the same as if set out herein in full.

VIII

Answering paragraph VII of said intervention, respondents say that the average dimensions of an uncompressed bale of cotton are as follows: Length 54 inches, width 27 inches, height 42 inches; and the average dimensions of a bale of cotton compressed to a density of 22 pounds per cubic foot or to what is known as standard density are as follows: length 54 inches, width 27 inches and height 18 to 21 inches. Respondents accordingly deny the size of cotton as alleged in said paragraph of said intervention.

Respondents deny that every load of uncompressed cotton transported by intervenors must be confined to a weight of 7,000 pounds or to 13 bales or that every load will necessarily have one or more containers containing 30 cubic feet and weighing more than 500 pounds, or that the transportation of cotton becomes economically impossible, by reason of any provision of said Act. In this connection respondents say that cotton can be ginned by the typical gin in Texas so as to contain more than 500 pounds [fol. 187] and less than 30 cubic feet or that a bale of cotton may be ginned containing less than 500 pounds, in either of which conditions intervenor could transport any number of such bales without violating the provisions of Section 3 (f) of said Act. Respondents deny that intervenor cannot conduct transportation over the highways of Texas on an economically sound basis by charging the same rates now charged by railroads for the same service when the loads are so constructed or that intervenor's business is

destroyed or that his business will have to be operated at a loss. As to the character of vehicles used by intervenor respondents say they are not informed other than from the allegations of intervenor but according to said allegations, by which intervenor is bound, respondents show that in paragraph V of said intervention intervenor alleges that he has acquired 40 trucks of Chevrolets, Ford and Universal types of 1½ to 3 tons capacity all equipped with semi-trailers upon which 1½ to 3 ton trucks with semi-trailers intervenor has been transporting an average load of 20 bales of uncompressed cotton and that said vehicles have an average weight of 5,500 pounds making a total gross weight of approximately 7½ tons and a net load of 5 tons on a 1½ ton to 3 ton vehicle. Respondents accordingly deny that there is no danger of any kind or character to the highways or to the traveling public, to persons or to property attendant upon the transportation of uncompressed cotton upon the highways as it is alleged that intervenor has been transporting same or that is not common or general to the transportation of compressed cotton. Respondents also deny that the transportation of uncompressed cotton over the highways is limited to 7,000 pounds under the terms of said Act when compressed cotton as well as other commodities can be transported in loads of 24,500 pounds or that any of the provisions of said Bill are highly and grossly discriminatory or that they bear no relation whatever to the regulation or use of the high-[fol. 188] ways. In connection with the allegations contained in said paragraph as to the weight provisions of the former law respondents would show that in addition to the weight provisions for a four wheeled vehicle and for a six wheeled vehicle there were weight provisions per inch width of tire and weight provisions per axle and since these details as to intervenor's equipment are not alleged, respondents say that they are not informed as to the limits as to weight which intervenor could have carried under said former law. Respondents would further show in this connection that there are more than 100 commodities customarily contained, boxed or bound for shipment in containers, boxes or bindings containing more than 30 cubic feet and weighing more than 500 pounds other than uncompressed bales of cotton and any one or all of which commodities may be transported over the highways and many of which are generally and

commonly so transported and respondents deny that said Act has reference to uncompressed cotton alone.

IX

Answering paragraph VIII of said intervention, respondents deny that the enforcing of said Act is tantamount to forcing intervenor to abandon and forsake his business or will result in great financial loss to them or that the equipment heretofore used by them will be rendered useless to them or will have to be offered for sale at a great sacrifice by reason of the enforcement of said Act or that any of the provisions of said Act is unjust, discriminatory or arbitrary or that the enforcement of said Act will operate destructively to any large investment intervenor may have made in purchasing trucks and equipment.

X

Answering paragraph IX of said intervention, respondents deny that any of the provisions of said act are un- [fol. 189] justly discriminatory or that there are any other concomitent evils thereto or that said act is "the capricious handiwork of the interior compresses and the railroads doing business and operating in the State of Texas" or that it is legislation designed and purposed to favor interior compresses and railroads to promote their business and welfare or to annihilate the business of transporting uncompressed cotton over the highways of Texas by motor carrier. Respondents deny that said Act is wholly without sound and reasonable basis. They deny that said Act restricts uncompressed cotton to 7,000 pounds and permits loads of uncompressed cotton or other commodities at 24,500 pounds and that there is no possible reasonable relation to the alleged purpose of the Act or that said Act is grossly discriminatory as against intervenors or denies to them the equal protection of the laws or deprives them of their property without due process of law.

Respondents say that they are not informed as to the contracts which intervenor may have but denies that they may not be duly fulfilled under the provisions of this Act and in this connection respondents say that each and every provisions of said Act constitutes a proper and valid exercise of the police power of the State, for which reason if

any contracts of intervenor are affected, nevertheless no constitutional right of intervenor is infringed thereby.

Respondents deny that intervenors cannot comply with said Act or that complying therewith would operate manifestly in a most unjust manner or that said Act would deprive intervenors of any constitutional rights or would bring about a destruction of their legitimate business or would deprive them of their property without due process of law or that intervenors' service and business would be so interrupted as to amount to a destruction of the same [fol. 190] by any of the provisions of said Act and respondents deny that intervenors will be compelled to abandon their business by reason of any of the provisions of said Act.

Respondents deny that intervenor has no adequate remedy at law or that any damages that they may have suffered are irreparable and incapable of judicial ascertainment nor that their damages are remediable only in a court of equity and respondents say that intervenors have a full, complete and adequate remedy at law.

VIII

Respondents here now adopt all of those allegations contained in their answer to the original bill of complaint herein and incorporate the same herein the same as if set out herein in full.

Now come respondents and, for affirmative allegations, show unto the Court as follows:

1

Respondents here now adopt all of those affirmative allegations contained in respondents' original answer to the original bill of complaint and incorporate the same herein as if the same were set out in full herein.

2

Respondents would show unto the Court that the Act complained of is applicable only to persons using the highways and that intervenor, according to its allegations, does not use the highway but, on the contrary, is engaged solely in the business of manufacturing and selling motor vehicles,

for which reason intervenor is not entitled to any relief herein.

3

Respondents would further show unto the Court that the weight provision of said bill does not become effective until January 1, 1932, by reason of which fact intervenor is not entitled to any equitable relief as prayed for at this time in any event.

[fol. 191]

4

That under the laws of this State now in force and effect, to-wit: Chapter 42, Acts of the Second Called Session of the Fortyfirst Legislature, all commercial motor vehicles of four wheels are limited to a gross weight, that is to say, weight of vehicle plus load of 22,000 pounds and all six wheel vehicles are similarly limited to a gross weight of 30,000 pounds. That, in addition, the said vehicles are limited in weight to a provision as to weight per inch width of tire and as to weight per axle.

5

That the Fortysecond Legislature at its regular session passed House Bill 336 which was effective on the 22nd day of August, 1931, and is the act complained of by complainants, which act amended said Chapter 42 of the General Laws of the Fortyfirst Legislature, Second Called Session, which said act further limits the size, weight, length, heights and speed and method and character of operation of motor vehicles handling all commodities on the highways of this State. Contained in said act is a provision, to-wit: Section 5, which limits net loads on all commercial motor vehicles or combination of vehicles to 7,000 pounds which limit become effective January 31, 1932.

Respondents say that the average weight of a six wheeled truck is 12,000 pounds.

6

Respondents allege that House Bill 336 is clearly and uniformly applicable to all users of the highways of the State of Texas transporting any and all commodities of every kind whatsoever by motor truck.

7

Respondents allege that the transportation of cotton by motor truck on the highways in the State of Texas creates a distinct class of motor traffic transportation from all [fol. 192] other characters of motor transportation in the State of Texas.

8

Respondents allege that cotton in its transportation characteristics is in all things different from the general line of commodities transported by motor truck on the highways of Texas.

9

Further affirmatively pleading herein respondents show that cotton in bale form is by no means the only commodity that moves to a considerable extent over the highways of this State by truck in bindings, containers or boxes containing more than 500 pounds per unit and being in volume more than 30 cubic feet per unit. Respondents show in this connection that there are a great number of commodities that move in this way in such containers, the names and characters of such commodities being specifically shown in an affidavit which is presented in this cause. Respondents say that the purpose of Section 3, subdivision (f) of this Bill was to affect all commodities alike when such commodities move in units as above described and that there is no justification whatsoever for the contention of complainants to the effect that the provisions of the bill in question apply only to cotton and were designed to apply only to cotton.

10

Respondents further show that the great majority of trucks carrying boxes or containers or bound commodities weighing more than 500 pounds and containing more than 30 cubic feet are trucks which are in no way enclosed and upon which there are no proper and adequate facilities for holding the load intact. Respondents show that in the majority of all such trucks moving such commodities there [fol. 193] is great danger that the loads carried upon such trucks will spill upon the highways and will cause traffic dangers upon the highways and will cause traffic congestion of the highways. Respondents say that it is unusually

difficult to load and transport upon trucks, boxes, containers or bindings containing more than 500 pounds and more than 30 cubic feet and that any load of such units upon which there is carried more than 12 or 14 of such units is an unwieldy load, a load that is hard to handle upon the highways and especially a load that is of such a nature that it is top heavy and likely to spill upon the highways or to overturn the truck upon which it is being carried. Respondents say further in this particular connection that the driver of the average load containing more than 14 units as above described cannot safely move over upon the average road in Texas in such a manner as reasonably to allow other traffic to safely pass the load which he is driving and that, as a result of this fact, it is almost invariably the custom of drivers of such load to "hog" the center of the road. Respondents say that this fact constitutes a serious traffic menace upon the highways of this State especially with regard to traffic passing upon the curves of the highways and respondents affirmatively show that the inability of drivers of the character of vehicle here under discussion to move over to the side of the road to let other traffic safely pass has caused within the past twelve months in this State more serious traffic accidents than any other one factor in truck transportation.

11

Respondents affirmatively show that the carrying upon a truck of a load of boxes, containers or bindings weighing more than 500 pounds and containing more than 30 cubic feet constitutes a traffic danger and traffic hazard upon the [fol. 194] highways and that the enforcement of Section 3, subdivision (f) of House Bill 336 will materially tend to lessen traffic dangers upon the highways and to relieve traffic congestion upon the highways.

12

Further affirmatively pleading in this particular connection respondents show that the universal custom among truckers of cotton is to charge a rate based upon a certain amount for the transportation of each bale of cotton instead of a rate based upon the transportation of a certain weight of cotton. Respondents show that throughout the

entire State of Texas this has resulted in the practice of the shippers of cotton demanding that the bales of cotton be made larger and greater weight included in each particular bale. Respondents show in this connection that with regard to the cotton already picked and ginned this season there has been a decided increase in the average size of the bales of cotton produced and ginned in Texas and that unless the tendency herein referred to is curbed by the provisions of House Bill 336 here under discussion that the average bale of cotton in Texas will become even larger and that, therefore, the dangers brought about by the transportation of great numbers of large units upon the same load will be increased and that the traffic dangers and traffic hazards upon our highways and traffic congestion upon the highways of this State will be materially increased.

13

Respondents affirmatively plead in this connection that the enforcement of the provisions of Section 3, subdivision (f) of House Bill 336 will materially tend to decrease and obviate the dangers immediately hereinabove referred to. [fol. 195] Respondents affirmatively plead that neither by the terms of the Bill, nor as a practical matter will it be necessary to compress cotton in order to economically transport it by motor truck under the provisions of Section 3, Subdivision (f) of this Bill.

Wherefore Respondents pray that the relief asked for by intervenor herein be in all things denied and that the temporary injunction prayed for be denied and that the Act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover from the intervenor all costs herein expended.

James V. Allred, James V. Allred, Attorney General of Texas; T. S. Christopher, T. S. Christopher, Assistant Attorney General; Elbert Hooper, Elbert Hooper, Assistant Attorney General, Solicitors for the Respondents. W. L. Cook, Albert Reed, of Counsel.

Duly sworn to by T. S. Christopher. Jurat omitted in printing.

[fol. 196] [File endorsement omitted.]

[fol. 197] IN UNITED STATES DISTRICT COURT

[Title omitted]

RESPONDENTS' ANSWER TO INTERVENTION OF YELLOWCAB TRANSIT COMPANY—Filed Sept. 9, 1931

Now come the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the intervention of Yellowcab Transit Company, said respondents say:

I

Respondents admit the allegations contained in Paragraph I of said intervention.

II

Answering Paragraph II of said intervention, respondents adopt all of the allegations contained in their original answer to the original bill of complaint and incorporate same herein the same as if set out herein in full.

III

Answering Paragraph III of said intervention, respondents say that they are not informed about the matters and things alleged therein, except that respondents say affirmatively that each and every provision of the act under at-
[fol. 198] tack is a valid exercise of the police power of the State of Texas, for which reason each such provision applies to trucks and other vehicles operating exclusively within interstate commerce as well as those operating in intrastate commerce and for which reason said provisions are not violative of any constitutional provision.

IV

Answering Paragraph IV of said intervention, respondents say that they are not informed as to the amount of license fees and other fees paid by intervener but respondents say that such licenses as may have been issued to in-

tervener by the State of Texas are revokable at the will of the State.

V

Answering Paragraph V of said intervention, respondents deny that any of the vehicles owned by the intervener will be virtually confiscated or that their use upon the highways is prohibited by the terms and provisions of the act complained of; or that this intervener will suffer irreparable damage in its business; or that it has no adequate remedy at law; or that said act constitutes a burden on interstate commerce, or is in violation of the Fourteenth Amendment to the Constitution of the United States; and respondents say that intervener has a full, adequate and complete remedy at law.

VI

Respondents here now adopt all of those allegations contained in their answer to the original bill of complaint herein and incorporate same herein the same as if set out herein in full.

[fol. 199] Now come respondents and for affirmative allegations herein adopt all of their affirmative allegations contained in their original bill of complaint herein and incorporate same herein the same as if set out herein in full.

Wherefore respondents pray that the relief asked for by intervener herein be in all things denied and that the temporary injunction prayed for be denied and that the act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover from the intervener all costs herein expended.

James V. Allred, James V. Allred, Attorney General of Texas; T. S. Christopher, T. S. Christopher, Assistant Attorney General; Elbert Hooper, Elbert Hooper, Assistant Attorney General, Solicitors for the Respondents. W. L. Cook, Albert Reed, of Counsel.

[fol. 200] *Duly sworn to by T. S. Christopher. Jurat omitted in printing.*

[File endorsement omitted.]

[fol. 201] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER OF RESPONDENTS TO INTERVENTION NO. ONE OF TENNESSEE DAIRIES INC.—Filed Sept. 9, 1931

Now come the respondents, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jesse E. Martin, Walter Prichard, J. M. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred, and R. S. Sterling, and answering the intervention of Tennessee Dairies, Inc., said respondents say:

I

Respondents admit the allegations contained in Paragraphs I, II and III of said intervention.

II

Answering Paragraph IV of said intervention respondents admit the ground upon which intervener seeks to restrain the enforcement of said Act, but deny that any portion of said Act is null and void or denies intervener the equal protection of the laws or deprives it of its property without compensation or without due process of law or is contrary to the Fourteenth Amendment to the Constitution of the United States.

[fol. 202]

III

Answering Paragraph V of said intervention, respondents say that they are not informed as to the matters alleged therein.

IV

Answering Paragraph VI of said intervention, respondents say that they are not informed as to the matters and things alleged therein except that respondents deny the allegations therein to the effect that hauling on a basis of 7000 pounds per load would double the cost of hauling, or that 12,000 to 13,000 pounds can be hauled at practically the same cost as 7000 pounds, and that such equipment as

intervener now uses does not in any manner or way damage the highways over which it moves or unnecessarily imperil the traveling public.

V

Respondents here now adopt all of those allegations contained in their answer to the original bill of complaint herein and incorporate said — herein the same as if set out herein in full.

VI

Answering paragraph VII of said intervention, respondents deny that any of the restrictions as to weight or limitations as to length specified by said Act are unreasonable or discriminatory and respondents also deny that each and every discrimination alleged in the original bill of complaint are applicable to this intervener.

Now come respondents and for affirmative allegations herein adopt all of those allegations contained in respondents' original answer to the original bill of complaint [fol. 203] herein the same as if set out herein in full.

Wherefore respondents pray that the relief asked for by intervener herein be in all things denied and that the temporary injunction prayed for be denied and that the act in question be in all things sustained and held valid; and that they be granted such other and further relief at law and in equity to which they may be entitled, and that they recover from the intervener all costs herein expended.

James V. Allred, James V. Allred, Attorney General of Texas; T. S. Christopher, T. S. Christopher, Assistant Attorney General; Elbert Hooper, Elbert Hooper, Assistant Attorney General, Solicitors for the Respondents. W. L. Cook, Albert Reed, of Counsel.

Duly sworn to by T. S. Christopher. Jurat omitted in printing.

[fols. 204-213] [File endorsement omitted.]

[fol. 214] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

Equity. No. 476

ED SPROLES, Complainant,

versus

T. BINFORD et al., Respondents

Frank H. Rawlings and Swartzberg & Rawlinsg, of Fort Worth, Texas, Chas. I. Francis, Weeks, Morrow, Francis & Hankerson, and Mathis & Caldwell, of Wichita Falls, Texas, Fulbright, Crooker & Freeman, of Houston, Texas, and J. B. Dudley and J. B. Barnett, of Oklahoma City, Oklahoma, for Complainant and Intervenors.

James V. Allred, Attorney General of Texas, and T. S. Christopher and Elbert Hooper, Assistant Attorneys General, and W. L. Cook, of Houston, and Albert Reed, of Dallas, Texas, for Respondents.

Before Hutcheson, Circuit Judge, and West and Kennerly, District Judges

OPINION OF COURT DENYING TEMPORARY INJUNCTION—Filed Sept. 30, 1931

KENNERLY, District Judge:

Alleging that the matter in controversy exceeds the sum or value of Three Thousand Dollars ($3,000.00), and that it arises under the Constitution and Laws of the United States, Complainant, Ed Sproles, a common carrier, engaged, under the name of Sproles Motor Freight Lines, in [fol. 215] transporting commodities in Motor Vehicles over the Highways of Texas, sues herein James V. Allred, Attorney General of Texas, and numerous other Law Enforcement Officers of the State, including T. Binford, Sheriff of Harris County, and a resident citizen of this Judicial District, to enjoin the enforcement, as to him, of an Act of the Legislature of Texas, having for its purpose the regulation, etc. of the operation of vehicles upon the Public Highways of Texas (Chapter 282, approved June 11, 1931, General Laws, Forty-Second Legislature, Page 507, and gen-

erally referred to as House Bill No. 336). Complainant charges that such Act, as to him, violates the equal protection and due process clauses of the Fourteenth Amendment to the United States Constitution, and prays for Temporary Restraining Order, Interlocutory Injunction pending final hearing, and Permanent Injunction upon final hearing. This is a Hearing, after due Notice to Respondents, upon pleadings and affidavits, of such Application for Interlocutory Injunction, before a Court convened under Section 380 of Title 28, U. S. C. A., at which Hearing, both Complainant and Respondents appeared by Counsel. Upon leave granted, several persons intervened, appeared at such Hearing by Counsel, and in like manner attacked such Act, but in each instance from a slightly different angle.

Complainant alleges that in his business as such common carrier, he has about one hundred (100) vehicles which would be affected by the enforcement of the provisions of such Act, maintains large warehouses, has many employees, [fol. 216] and has an investment of more than Two Hundred and Sixty Four Thousand Dollars ($264,000.00). That he has fifteen (15) combinations of vehicles, etc. on which he may carry loads in excess of seven thousand (7,000) pounds, and fifteen (15) combinations of vehicles which are in excess of a total length of forty-five (45) feet, all representing an investment of more than One Hundred and Fifteen Thousand Dollars ($115,000.00). That the operation of such vehicles is prohibited by the provisions of said Act, and same will be made valueless thereby, and that no other type of vehicle can be profitably operated in Complainant's business. That he has paid 1931 annual highway license fees, aggregating approximately Ten Thousand Dollars ($10,000.00), and is paying the State of Texas a large gasoline tax. That he has certain existing contracts for the transportation of commodities over the Highways, which he will be unable to fulfill and perform under the provisions of said Act. That his rates are fixed by the Railroad Commission of Texas, and he has no authority to alter or change same, and that operation under said Act will be unprofitable, and that Complainant's business will virtually be destroyed and confiscated.

Intervenors, Tennessee Dairies, Inc., engaged in the intrastate business of daily gathering and marketing dairy

products; Southern Transportation Company, engaged both in the intrastate and interstate business of operating a motor freight line; Western States Grocery Company, Inc., engaged in the wholesale grocery business and hauling and transporting commodities in connection with its business; Merchants Fast Motor Lines, Inc., engaged as a common [fol. 217] carrier of commodities in intrastate business; Bull-Stewart Equipment Company, Inc., engaged in transporting Ford automobiles over the Highways under a Contract with the Ford Motor Company; Jno. B. Barbour Trucking Company, Inc., engaged as a private carrier of oil field equipment and farm machinery; G. F. Sproul, the owner of certain trucks and engaged as a private carrier; and the Yellowcab Transit Company, engaged in interstate business only and operating a commercial motor freight line for the transportation of commodities; make similar allegations (but with varying amounts and numbers) with respect to their businesses, and the injury that will be inflicted upon them by the enforcement of such Act. Substantially all of them adopt the pleadings of Complainant.

Intervenor, W. T. Stevens, alleges that he is engaged in the business of transporting uncompressed cotton for hire in trucks owned by him. That he has a Contract with Mager Cleaver & Company, under which he is to transport all uncompressed cotton owned by such Company, and has acquired approximately forty (40) trucks, all equipped with semi-trailers, and representing an investment of about Fifty Thousand Dollars ($50,000.00). That enforcement of such Act will bring about a cancellation of his Contract. That he knows of no commodity transported over the Highways to which Section 3(f) of such Act can apply other than uncompressed cotton, and charges that said Act has reference to uncompressed cotton alone. That the enforcement of this Act will cause complete destruction of the business of Intervenor. He also alleges that this legislation is designed and purposed to favor the interior compresses in [fol. 218] the compressing, and the railroads in the transportation, of cotton, and to promote their business and welfare, and to annihilate and destroy the business of transporting uncompressed cotton over the Highways.

A statement of the contention of the Intervenor, Wichita Falls Motor Company, appears later herein.

The Complainant and all Intervenors allege that Respondents are threatening to enforce such Act, and unless restrained, will do so, or attempt to do so, and will arrest them and their drivers and other employees, and subject them to numerous prosecutions, causing them large damage and heavy expense, etc.

Respondents, by their pleadings, join issue with Complainant and Intervenors.

(1) The Act in question, after defining certain terms used therein, provides that no vehicle exceeding a total outside width of ninety-six (96) inches including any load thereon, exceeding a height of twelve (12) feet six (6) inches unladen or with load and including load, and exceeding a length of thirty-five (35) feet or a combination of vehicles coupled together exceeding a length of forty-five (45) feet, shall be allowed to pass over the Public Highways of Texas. There are a number of exceptions and exemptions, and these exceptions and exemptions, and certain provision as to weight and packing of loads, form the basis of the main complaint of Complainant and Intervenors, and for convenience, their terms and provisions are set forth in the discussion of such complaint.

The Act also contains certain other provisions with respect to the load extending beyond the front and rear, and [fol. 219] over the sides, of the vehicle, prescribes the rate of speed, has certain safety provisions with respect to the display of flags and lights, equipment with brakes, signal horns, etc., and makes certain requirements respecting parking vehicles upon the Highways. It makes a violation of the Act a misdemeanor, with a fine for the first violation, a larger fine or imprisonment in the county jail for a second violation, and a still larger fine and longer imprisonment for a third or subsequent violation.

Unquestionably Complainant and each of the Intervenors (except the Wichita Falls Motor Company), on the face of their pleadings, state a cause of action of which this Court has jurisdiction. Smith v. Cahoon, 283 U. S. 554; Buck v. Kuykendall, 267 U. S. 314; Packard v. Banton, 264 U. S. 140; Frost v. U. S. 271 U. S. 583.

The Wichita Falls Motor Company is not using the Highways. The basis of its complaint is that it is now, and has been for many years, engaged in the manufacture and

sale (frequently on credit) of a certain type or certain types of vehicles (and yet has many on hand), which, under the Act, it alleges cannot be used on the Public Highways of Texas, and it, therefore, cannot sell them, nor collect for those already sold, and that its business will be wrecked by the enforcement of this Act. It relies upon Pierce v. Society of Sisters, 268 U. S. 532; 69 L. E. 1077, and other similar cases. Such cases, however, are, we think, distinguishable from the case here presented by Motor Com- [fol. 220] pany. We think the injury alleged by it is too remote to bring it within the rule of such cases. Reference hereinafter to Intervenors will be understood to be Intervenors other than such Motor Company.

That this Act, insofar as it regulates, or seeks to regulate, as stated above, the size of vehicles and loads, the speed thereof, and makes provision for the safety of the public and the protection of the Highways, and considered without regard to the exceptions, exemptions and other provisions complained of, is well within the power of the Legislature, we need not stop to discuss. Hendrick v. Maryland, 235 U. S. 622; 59 L. E. 390; Morris v. Duby, 274 U. S. 140; 71 L. E. 967.

(2) But Complainant and Intervenors, citing Smith v. Cahoon, 283 U. S. 554, and the line of cases there cited and discussed, and invoking the principles there laid down, attack Sections 3(a), 3(c) and Section 5(b) (Section 7) of the Act as arbitrary, oppressive, unreasonable and discriminatory, and as to them, void, because violative of the equal protection and due process clauses of the Fourteenth Amendment to the Federal Constitution. The wording of the pertinent parts of Sections 3(a), 3(c) and 5(b) is as follows:

"Sec. 3. (a) No vehicle shall exceed a total outside width, including any load thereon, of ninety-six (96) inches, except that the width of a farm tractor shall not exceed nine (9) feet, and except further, that the limitations as to size of vehicle stated in this section shall not apply to *implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highways.*"

[fol. 221] "Sec. 3. (c) No motor vehicle, commercial motor vehicle, truck-tractor, trailer, or semi-trailer shall exceed a length of thirty-five (35) feet, and no combination of such vehicles coupled together shall exceed a total length of forty-five (45) feet, *unless such vehicle or combination of vehicles is operated exclusively within the limits of an incorporated city or town.*"

"Sec. 5. (b) The limitations imposed by this act as to length of vehicle or combination of vehicles and weight of loads and of height of vehicle with load shall not apply to vehicles when used only to *transport property from point of origin to the nearest practicable common carrier receiving or loading point or from a common carrier unloading point by way of the shortest practicable route to destination;* provided, said vehicle does not pass a delivery or receiving point of a common carrier equipped to transport such load, or when used to transport property from the point of origin to point of destination thereof when the destination of such property is less distant from the point of origin thereof than the nearest practicable common carrier receiving or loading point equipped to transport such load; provided, however, that in no event except by special permit, as hereinabove specifically provided, shall the length of said vehicles exceed fifty-five (55) feet or the weight of such loads exceed fourteen thousand (14,000) pounds; and provided further, that the limitations imposed by this act upon weight per inch width of tire shall apply to all such vehicles and loads;"

When properly construed (and this Act has not been construed by Texas Courts, and in construing it, we must look to the Legislative intent, and if open to more than one construction, give it a construction within the power of the Legislature to enact), we do not believe Section 3(a) must fall under this attack. The term "implements of husbandry temporarily propelled or moved upon the [fol. 222] public highways" clearly has reference to the movement, in the usual course of farm work, from farm to farm, etc. of such implements as tractors, plows, trucks, hay presses, etc., sometimes upon their own power, and not to the transportation of such farm implements in the manner insisted by Complainant. Likewise, the exemption

of machinery for drilling water wells and road building machinery, when temporarily moved, without doubt refers to the infrequent movement of such machinery from one place of operation to another, which movements are of a special kind, temporary in their nature, and not a constant use of the Highways. We entertain no doubt as to the power of the Legislature to classify these vehicles and these operations thereof, and in this manner, except and exempt them from certain of the provisions of this Act. Lindsley v. Natural Carbonic Gas Co., 220 U. S. 76; 55 L. E. 377, and cases there cited, and numerous cases which follow it. Such exceptions and exemptions apply alike to all persons (including Complainant and Intervenors), do not unlawfully discriminate against Complainant and Intervenors, and present a case clearly distinguishable from the authorities relied upon by them.

The complaint respecting Section 3(c), exempting vehicles operated in incorporated Cites and Towns from certain requirments of the Act, may be disposed of as not well taken by referring to Hayes v. State of Missouri, 120 U. S. 68; 30 L. E. 579; Packard v. Banton, 264 U. S. 142; 68 [fol. 223] L. E. 607; Radice v. New York, 264 U. S. 295; 68 L. E. 695; and to the latter provisions of Section 12 of the Act.

This brings us to a discussion of Section 7 (Section 5(b) of the Act). The substance thereof is that the limitation as to length of vehicles or combination of vehicles, height of vehicles with load, and weight of loads, shall not be applicable to vehicles used only to transport property from point of origin to the nearest practicable common carrier receiving or loading point, or from a common carrier unloading point by the shortest route to destination. It also contains the provision that a common carrier (equipped to transport such load) delivery or receiving point shall not be passed in the course of such transportation, and the further provision that when the distance from point of origin to destination is less than from point of origin to the nearest practicable common carrier receiving or loading point equipped to transport the load, the Act shall not be applicable. There is a further provision that in no event, except by special permit (persumably under Section 2 of the Act), shall the length of vehicles so engaged

exceed fifty-five (55) feet or the weight of the load exceed fourteen thousand (14,000) pounds. There is also a provision that the weight limitation based upon per inch width of tire shall apply in any event to such loads.

[fol. 224] This is another classification made by the Legislature in this Act, which neither from the Act itself, nor the evidence before us, appears to us to be beyond the power of the Legislature to make. Lindsley v. Natural Carbonic Gas Co., supra, and other authorities cited. The evidence shows that the average distance of the hauls under this Section will be approximately four to eight miles. The evident purpose of the Legislature is to permit the operation of exceptional vehicles in such areas by persons (including Complainant and Intervenors) who may desire to transport commodities from the point of origin (which would include the farms and the manufacturing plants) to common carrier receiving points (which would include Complainant's receiving point, he being a common carrier), and from common carrier unloading points to points of destination, etc. In other words, short hauls, in which the Highways are used in this manner to a limited extent, are excepted from certain provisions of the Act. We do not believe that this is either an arbitrrary, oppressive, or unreasonable use of the Legislative power, nor that it unlawfully discriminates against Complainant and Intervenors. Complainant and Intervenors present striking map illustrations of certain claimed workings of this Section of the Act. The answer thereto is that we are not authorized to strike down this Act simply because in some instances it may work awkwardly, or may even produce hardships, our inquiry being whether or not it is arbitrary, oppressive, unreasonable, or discriminatory. Radice v. New York, supra.

[fol. 225] (3) Complainant and Intervenors also, for the same reasons, complain of Section 5 of the Act. Section 5 provides that no commercial motor vehicle, truck-tractor, trailer or semitrailer shall be operated upon the Highways outside of the limits of incorporated cities or towns, with a load exceeding seven thousand (7000) pounds on any such vehicle or train or combination of vehicles. Such Section contains other provisions with respect to the pound weight per inch width of tire. But this Section does not become effective until January 1, 1932, and we do not pass upon the questions raised. Respondents cannot enforce its provi-

sions against Complainant and Intervenors prior to January 1, 1932, and we do not think they are now entitled to an Interlocutory Injunction, nor are they under the rule laid down in Pierce v. Society of Sisters, supra.

(4) The same attack is made upon Section 3(f) in part reading:

"Sec. 3(f): Immediately upon the taking effect of this Act, it shall thereafter be unlawful for any person to operate or move, or for any owner to cause to be operated or moved, any motor vehicle or combination thereof over the highways of this State which shall have as a load or as a part of the load thereon any product, commodity, goods, wares or merchandise which is *contained, boxed or bound in any container, box or binding containing more than thirty* (30) *cubic feet and weighing more than five hundred* (500) *pounds where there are more than fourteen* (14) *of such containers, boxes or bindings being carried as a load on any such vehicle or combination thereof; provided, that no* [fol. 226] *number of any such* such *containers, boxes or bindings shall be carried as the whole or part of any load exceeding seven thousand* (7000) *pounds on any such vehicle or combination thereof;*"

We entertain no doubt that the Legislature has the power to classify commodities that are bound, boxed, or in containers, and to regulate their transportation over the Highways by prescribing their cubic contents, and/or their weight. We think the portion of Section 3(f) which prescribes the cubic contents and weight of such packages is within the Legislative power. Lindsley v. Natural Carbonic Gas Co., supra. We also think that the Legislature has the power to reasonably regulate and limit the load to be transported over the Highways. Morris v. Duby, supra. But the writer cannot better lay down the rule applicable to the balance of this Section, when considered in the light of the evidence before us, than by quoting what was said by this Court, speaking through Hutcheson, Circuit Judge, in Equity 467, McLeaish v. Binford (— Fed. (2d) —):

"Since however, such restrictions must have a due and just relation to the supposed mischiefs to be avoided, the injurious character of highway use, and may not be arbi-

trarily designed under the guise of reasonable regulations, to hamper and prohibit in a discriminatory way the business of those who use the highways (Smith vs. Cahoon, supra) plaintiffs may still have relief against the statute if, though the basis of the classification is reasonable, the Legislature has used means having no just and fair relation to the mischief aimed at, means which though by a skill-[fol. 227] ful bewordling they do appear to regulate, in reality destroy. For equally as well settled as the principle that legislative discretion to classify for regulation operates within wide limits in matters clearly within its jurisdiction, is its corollary, that the right to classify conceded restrictions imposed upon the class must not be arbitrary discriminations against that class in favor of others, having no just relation to the basis of the classification, the lawful ends desired, and must not be unreasonably and oppressively drastic in their overwideness of sweep. But such restrictions must be reasonably necessary for the accomplishment of the purpose, and not unduly oppressive upon the class; 'Must have due relation to the basis of the classification and the ends desired, and must not be designed and effective to do indirectly what the Legislature may not directly do.' Smith vs. Cahoon, supra; Frost vs. R. R. Com. 271 U. S. 583; Lawton vs. Steele, 152 U. S. 133; Weaver vs. Palmer Bros. 270 U. S. 402; Truax vs. Raich, 239 U. S. 33; Adams vs. Tanner, 244 U. S. 590; Pa. Coal Co. vs. Mahon, 260 U. S. 393; Burns Baking Co. vs. Bryan, 264 U. S. 512."

Applying these principles to Section 3(f), taken in connection with Section 5 elsewhere discussed, and in the light of the evidence before us, it appears that Section 3(f) not only limits a load on the Highways made up of packages (bales of uncompressed cotton for instance, which contain more than thirty (30) cubic feet and on an average weigh more than five hundred (500) pounds) containing more than thirty (30) cubic feet, and weighing more than five hundred (500) pounds, to fourteen (14) of such packages, which would aggregate in weight seven thousand (7000) pounds, but limits to seven thousand (7000) pounds a load where there is in such load even one package (one bale of uncompressed cotton) containing more than thirty (30) [fol. 228] cubic feet and weighing more than five hundred (500) pounds. While on the other hand, persons trans-

porting all kinds of commodities not bound, boxed, or in containers, whether same be nitroglycerine, gasoline, crude oil, pianos, or grind-stones, and all kinds of commodities boxed, bound, or in containers (bales of compressed cotton for instance which contain less than thirty (30) cubic feet) containing thirty (30) cubic feet or less, or weighing five hundred (500) pounds or less, may, prior to January 1, 1932, when Section 5 of this Act takes effect, transport a load of approximatel twenty-four thousand (24,000) pounds.

It is certain that this provision has no just relation to the supposed mischiefs to be remedied, when it is considered that the regulation as to weight is for the protection of the Highways, including the bridges, culverts, etc., and persons and property thereon, and that the transportation of a load of one weight, of packages containing more than thirty (30) cubic feet and weighing more than five hundred (500) pounds, is no more injurious to the Highways, or persons and property thereon, than the same weight load containing a miscellaneous assortment, with packages of less cubic feet contents, or less weight. One is reminded of a catch question, frequently propounded in childhood days, of which is the heavier, a pound of lead or a pound of feathers. We conclude from Section 3(f) itself, and the evidence before us, that in this particular at least, it is unlawfully discriminatory against, and oppressive of, Complainant [fol. 229] and those Intervenors who are engaged in the transportation of uncompressed cotton and other similar commodities, and that they are entitled to relief. The injury which will be suffered by them is asserted by them to be most serious; in fact it is claimed they will be driven from the Highways, particularly insofar as the transportation of uncompressed cotton is concerned. Without deciding the precise extent of such injury, we hold that it is shown to be sufficient to entitle them to present relief by Interlocutory Injunction as prayed for. It may be, however, that if and when Section 5 of this Act becomes legally effective (if it does), a different question will be presented, hence such Temporary Injunction should be in force until a hearing of this case on its merits, but in no event beyond January 1, 1932. Without now deciding whether the invalidity of a portion of Section 3(f) destroys the whole Act,

we limit the Interlocutory Injunction to restraining the enforcement of Section 3(f).

It is pressed upon us by Respondents in the argument at Bar, and in the Briefs, that the evidence now before us shows that the cubic contents, and/or weight, of bales of uncompressed cotton may, in several ways, be reduced, or caused to be reduced, by Complainant and Intervenors, so as to comply with Section 3(f). A careful consideration of such evidence does not convince us that this is true, or if true, that Complainant and Intervenors can presently do so, i. e. within the time of the moving of the present (1931) cotton crop.

[fol. 230] In consultation, we have also considered whether Complainant and Intervenors may be given some measure of relief by a liberal construction of this Section 3(f), and by Respondents and other Law Enforcement Officers of the State refraining from an enforcement of the Act against Complainant and Intervenors where it happens that the bales of uncompressed cotton, or other package, weigh slightly more than five hundred (500) pounds, or there otherwise be only some small departure from the strict letter of the Law. Judging, however, from the pleadings filed by, and the arguments made by, Respondents at the Bar, and in their Briefs, there is little, if any, disposition to soften the Law in its enforcement.

(5) The Complainant and Intervenors attack a portion of Section 2 of the Act, which declares it to be unlawful and a misdemeanor for any person to drive, operate or move, or for the owner to cause or permit to be driven, operated, or moved, on any Highway, any vehicle or vehicles not of the size, weight and construction, etc. prescribed in the Act, but which contains, in substance, the following exception:

"Provided the Department, acting directly or through its agent or agents designated in each county shall have and is hereby granted authority to grant permits limited to periods of ninety (90) days or less for the transportation over State highways of such overweight or oversize or overlength commodities as cannot be reasonably dismantled or for the operation over State highways of super-heavy and oversize equipment for the transportation of such over-[fol. 231] size or overweight or overlength commodities as cannot be reasonably dismantled; provided, that any haul

or hauls made under such permits shall be made by the shortest practicable route; provided, further, that the Department shall designate the county judges of the respective counties in addition to its other designated agents, who acting under the direction of the Department shall have and are hereby granted authority to issue such permits over State highways;" etc.

The plain purpose is to permit and make provision for the transportation over the Highways of those commodities, extraordinary in length, weight or size, which (and the equipment upon which they are handled) cannot be reasonably dismantled, and which are not everyday, but are unusual, loads, and which, but for this or some similar provision, could not pass over the Highways at all. The authority given by this Section to the Highway Department and its Agents in each County is not to suspend the Laws, as was the power conferred, or attempted to be conferred, upon the Highway Department in Ex Parte Faison, 248 S. W. 343, but is of a fact-finding and administrative nature: Trimmier v. Carlton, 116 Tex. 591, and cases there cited. Texas Jurisprudence, Volume 9, Section 70, and cases cited in foot notes. Ruling Case Law, Volume 6, Sections 175 and 179. The particular fact to be found is whether the commodity or equipment is of such nature as cannot be reasonably dismantled. If it is found to be, it is exempt from the requirement as to length, weight or size, and permit may issue for it to be moved over the Highway, but with a well [fol. 232] defined limitation as to route and time. It may be conceded that it is often difficult to define clearly the line between those Legislative Acts where power to suspend a Law is given, or attempted to be given, and those where power of fact-finding or administration is given. We think that Section 2 of this Act does not violate Section 26 of Article 1 of the Texas Constitution, and is valid.

Neither is it unlawfully discriminatory against Complainant and Intervenors. To all of them, the provisions of Section 2 are available, as well as to all others, equally, and this Court will not presume, as Complainant and Intervenors seem to insist, that the action of the Highway Department, and/or its Agents, will be arbitrary, and that they will be denied, and others granted, a permit under such Section. It will be time enough for them to complain

when thus treated. But should we be mistaken, and should Section 2 be invalid under the Texas Constitution, we would be unwilling to say that such invalidity would tear down the whole of this Act, and entitle Complainant to enjoin the enforcement thereof.

(6) Several of the Intervenors are engaged in Interstate Commerce, and claim that this Act places a greater burden upon them than is permitted. Neither from the Act itself, nor the evidence before us, does this appear to be true. Hendrick v. Maryland, supra. Morris v. Duby, supra.

[fol. 233] This disposes of all questions we deem necessary to discuss, and Interlocutory Injunction will be denied, except as against the enforcement of Section 3(f), which will be limited as herein provided.

Both Hutcheson & West concur & the Clerk will file.

Kennerly, Judge.

[File endorsement omitted.]

[fol. 234] In United States District Court, Southern District of Texas, Houston Division,

In Equity. No. 476

Ed Sproles, Complainant,

vs.

T. Binford et al., Respondents

Decree of Court on Hearing for Temporary Injunction—Filed Nov. 6, 1931

In the above entitled and numbered cause, application for a temporary injunction having been made on the 18th day of August A. D. 1931, by Ed Sproles, doing business under the name and style of Sproles Motor Freight Lines, Complainant and presented to the Honorable T. M. Kennerly, United States District Judge for the Southern District of Texas, for the issuance of a temporary injunction as prayed for in the Bill in said cause, and the said Honorable T. M. Kennerly having heretofore called to his as-

sistance Honorable J. C. Hutcheson, Jr., United States Circuit Judge and Honorable Duvall West, United — District Judge, to hear and determine said application and the said application having been set down for hearing at Houston, Texas on the 3rd day of September A. D. 1931, and thereafter certain interventions having been filed under leave of the Court, by W. T. Stevens, G. F. Sproul, doing business under the name of Empire Transportation Company, Wichita Falls Motor Company, Jno. B. Barbour Trucking Company Inc., Bull-Stewart Equipment Company Inc., Merchants Fast Motor Lines, Inc., Western States Grocery Company Inc., Southern Transportation Company Inc., Tennessee Dairies Inc., and Yellow Cab Transit Company; and due notice of said original application as well as on all of said interventions having been given to the respondents in said cause, the said application and interventions came on for hearing and determination at the time and place stated in such notice, whereupon all the parties of record appeared by their respective counsel and announced ready for trial; and the court having considered the pleadings of all of the parties in said cause and the evidence in the form of affidavits filed therein, and heard the arguments of counsel and after having given [fol. 235] due consideration to written briefs submitted by the respective parties, is of the opinion that as to intervenor Wichita Falls Motor Company, the temporary injunction should be in all things denied and as to the original complainant Ed Sproles, and each of the intervenors in this cause (other than Wichita Falls Motor Company) the temporary injunction prayed for should be denied except as to Section 3 (f) of said House Bill No. 336 passed by the 1931 Legislature, and as to said Section 3 (f) of said House Bill No. 336, the temporary injunction prayed for in said original application and in each of said interventions (except as to Wichita Falls Motor Company) should be granted, the same to remain in force and effect until January 1, 1932.

It is therefore ordered, adjudged and decreed by the court, that the temporary injunction prayed for by intervenor Wichita Falls Motor Company be and the same is hereby in all things denied, and that the temporary injunction prayed for in said original application and in each of said interventions (other than Wichita Falls Motor

Company) be and the same is hereby denied and refused except as to Section 3 (f) of House Bill No. 336 passed by the Legislature of the State of Texas and approved by the Governor and which became effective as a statute of the State of Texas on August 23, A. D. 1931 and that as to said Section 3 (f) of said House Bill No. 336 passed by the 1931 Legislature, the temporary injunction prayed for in said original application and in each of said interventions (other than the intervention of Wichita Falls Motor Company) be and the same is hereby granted, for the reasons set forth in the opinion of the court on file herein, to remain in force and effect until the hearing of this cause on its merits but in no event after January 1, 1932, and respondents and each of them, their successors, deputies and employees and those under their control whose duty it is to make arrests for any violation of Section 3 (f) of an Act passed by the Legislature of the State of Texas and approved by the Governor, and which became effective as a statute of the State of Texas on August 23, 1931, and known as House Bill No. 336, be and each of them is hereby restrained and enjoined from molesting, arresting filing complaints or charges against or prosecuting complainants and intervenors (other than Wichita Falls Motor Company) or [fol. 236] any of their employees, agents or servants or those on whose behalf said intervenors filed their interventions, their employees, agents or servants, for any violation of said Section 3 (f) of said Act, until January 1, 1932, and/or until further orders of this court.

It is further ordered that upon the complainant and intervenors filing with the Clerk of this Court a bond in the sum of $2000.00 payable and conditioned as required by law, and to be approved by this Court, the Clerk of the court issue the temporary injunction as herein granted.

J. C. Hutcheson, Jr. (K.), United States Circuit Judge. Duval West (K.), United States District Judge. T. M. Kennerly, United States District Judge.

[File endorsement omitted.]

[fol. 237] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

Equity. No. 476

ED SPROLES, Complainant,

versus

T. BINFORD et al., Respondents

Frank H. Rawlings and Swartzberg & Rawlings, of Fort Worth, Texas, Chas. I. Francis, Weeks, Morrow, Francis & Hankerson, and Mathis & Caldwell, of Wichita Falls, Texas, Fulbright, Crooker & Freeman, of Houston, Texas, and J. B. Dudley and J. B. Barnett, of Oklahoma City, Oklahoma, for Complainant and Intervenors.

James V. Allred, Attorney General of Texas, and T. S. Christopher and Elbert Hooper, Assistant Attorneys General, and W. L. Cook, of Houston, and Albert Reed, of Dallas, Texas, for Respondents.

Before Hutcheson, Circuit Judge, and West and Kennerly, District Judges

OPINION OF THE COURT—Filed January 27, 1932

KENNERLY, District Judge:

Before a Court organized under Section 380 of Title 28, U. S. C. A., this is a final hearing of this cause, in which Complainant and Intervenors attack, and seek to enjoin the enforcement of, the Act of the Texas Legislature known as House Bill 336 (Chapter 282, approved June 11, 1931, General Laws, 42nd Legislature, page 507, Regulating Vehicles on Highways), claiming that it violates the equal protection and due process clauses of the Fourteenth Amendment to the Federal Constitution. At a former similar hearing on Complainant's and Intervenors' Application for Interlocutory Injunction, we upheld the Act except in one particular and except several provisions not passed on. (Ed Sproles v. T. Binford, et al., 52 Fed. (2d) 730.) The provisions of the Act, the names and business of Complainant and Intervenors, the grounds of attack,

and the main facts shown will be found stated in the Opinion filed on such former hearing, but other facts will be herein stated as may be necessary.

[fol. 238] House Bill 336 is one of three major highway regulation measures passed by the Forty-Second Legislature of Texas. The other two measures, known as House Bills 628 and 335, have been considered by this Court in a similar attack upon their validity. (J. H. McLeaish & Co. v. T. Binford, et al., 52 Fed. (2d) 151; J. H. Stephenson v. T. Binford, et al., 53 Fed. (2d) 509.)

(1) Complainant and Intervenors renew their attack upon that portion of Section 3a of the Act, which declares that the limitations as to size of certain vehicles passing over the Highways shall not apply to implements of husbandry, and certain water well and highway building and maintenance machinery, etc. Since the final hearing herein, the Texas Court of Criminal Appeals (the Court of last resort in Criminal matters in Texas) has, in the case of Cecil Reaves v. The State of Texas (— Texas Criminal Appeals Reports —; — S. W. —), construed this Section contrary to Complainant's and Intervenors' contention. Such contention may, therefore, be disposed of by referring to the Opinion in the Reaves case and to our former Opinion herein.

(2) In renewing their attack on Section 7 (5b) of the Act, and in attempting to show it to be discriminatory against them, Complainant and Intervenors assert in their Brief that:

"The only interpretation which could possibly be placed upon the language contained in Section 7 is that under the conditions enumerated in said section, vehicles 55 feet in length, carrying Fourteen Thousand (14,000) pounds net load, can be used, *without restriction of any kind as to the length of combinations, and each unit of the combination may carry Fourteen Thousand* (14,000) *pounds.*"

The Texas Courts have not construed Section 7 (5b). Looking to the Act to discover the Legislative intent, we find that the measure is declared to be (Section 15) for the benefit of public safety and the protection of the Highways. It would be most unreasonable to suppose that the

Legislature, with this purpose in mind, intended to permit [fol. 239] regularly to pass over the Highways, under the circumstances set forth in Section 7 (5b), or indeed under any circumstances, combinations of vehicles, without limit as to number of vehicles in the combination, and/or the length of the combinations, with each vehicle in the combination carrying fourteen thousand (14,000) pounds. We think the reasonable construction, and that intended by the Legislature, is that a combination of vehicles under such Section 7 (5b) is limited to a maximum of fifty-five (55) feet in length, and the load or loads to a maximum of fourteen thousand (14,000) pounds. The other questions raised respecting Section 7 (5b) are disposed of, and sufficiently discussed, in our former Opinion, to which we adhere.

(3) Intervenor Stevens, a carrier of uncompressed cotton, presses upon us that if Section 7 (5b) is held valid, and if it is further held that because of Section 3f uncompressed cotton cannot be lawfully transported over the Highways under the provisions of Section 7 (5b), from point of origin to common carrier receiving station, and from common carrier unloading points to destination, etc., that there would be thereby unlawful discrimination against him as a carrier of uncompressed cotton. We think his contention is fully answered by the following language in Section 7 (5b):

"The limitations imposed *by this Act* as to length of vehicle or combination of vehicles and *weight of loads* and of height of vehicles with load shall not apply to vehicles when used" etc.

Construing Section 7 (5b) and Section 3f together (as we must), we think that fourteen thousand (14,000) pounds of uncompressed cotton may be transported under the conditions set forth in Section 7 (5b), notwithstanding the provisions of Section 3f.

(4) Complainant and Intervenors complain of the provisions in Section 5, limiting loads to seven thousand (7000) pounds. The right of the Legislature to regulate [fol. 240] and limit the gross weight of vehicles, and the loads thereon, passing over the Highways is beyond ques-

tion. Morris v. Duby, 274 U. S. 139; 71 L. Ed. 967, and authorities there cited.

The Legislature saw fit to limit such gross weight of vehicle and load by limiting the load weight. This, and the limitation of such load weight to seven thousand (7,000) pounds, is complained of, and we are asked to substitute our judgment as to the manner of limiting such gross weight of vehicle and load, and our judgment as to limitation of load weight, for that of the Legislature. This we may not do. In Standard Oil Co., et al. v. City of Marysville, et al., 279 U. S. 583; L. Ed. 859, it is said:

"We need not labor the point, long settled that where Legislative action is within the scope of the police power, fairly debatable questions as to its reasonableness, wisdom and propriety are not for the determination of courts, but for that of the legislative body on which rests the duty and responsibility of decision. Zahn v. Board of Public Works, 274 U. S. 325, 328; Hadacheck v. Los Angeles, 239 U. S. 394, 408-412, 413-414; Euclid v. Ambler Realty Co., 274 U. S. 365, 388; Jacobsen v. Massachusetts, 197 U. S. 11, 30; Laurel Hill Cemetery v. San Francisco, 216 U. S. 358, 365; Cusack Co. v. City of Chicago, 242 U. S. 526, 530; Price v. Illinois, 238 U. S. 446, 451."

The Legislature must be presumed to have found as a fact that the limitation of the weight of the load would serve to limit the gross weight of load and vehicle, and the preponderance of the evidence before us supports this finding. The Legislature must also be presumed to have found as a fact that seven thousand (7000) pounds load weight, plus the weight of the vehicle, is the maximum load that should be allowed to pass over the Highways, taking into consideration the manner of past and present road construction, planned future construction, cost of maintenance, strength of the bridges, conditions of traffic, etc. The preponderance of the evidence before us confirms this finding.

But citing J. H. McLeaish & Company v. T. Binford, et al., 52 Fed. (2d) 151, Smith v. St. Louis & S. W. Ry. Co., 181 U. S. 248, 45 L. Ed. 847, Lochner v. N. Y., 198 U. S. 64, 49 L. Ed. 937, and Minnesota v. Barber, 136 U. S. 313, 34 L. Ed. 455, it is also said such weight limitation bears

[fol. 241] no reasonable relation to Highway protection, and that it is arbitrary and unreasonable. The preponderance of the evidence before us is to the contrary. We think Section 5 of the Act must, under the Law and the evidence before us, be upheld as valid.

(5) Article 911a of the Texas Revised Civil Statutes of 1925 and Amendments, and Article 1690a of the Texas Penal Code and Amendments, regulate Motor Vehicles transporting persons as passengers, for hire, and operating upon Texas Highways, and Articles 6675 to 6701 of such Civil Statutes, and Articles 783 to 823 of such Penal Code, regulate Private Motor Vehicles carrying persons. The Act under discussion (House Bill 336) regulates, in some respects, vehicles carrying persons, but nowhere is the weight of either the vehicle, or the load of vehicles, carrying persons, limited by Statute. Complainant and Intervenors point to this, and charge that since this Act limits vehicles carrying freight to a load weight of seven thousand (7000) pounds (and under the circumstances set forth in Section 7 (5b), to a load weight of fourteen thousand (14000) pounds), this unlawfully discriminates against them as carriers of freight. It is contended and shown that the combined weight of vehicles and load carrying persons as passengers, for hire, is greater than will be the combined weight of vehicles and load carrying freight, for hire, where the weight load is limited to seven thousand (7000) pounds, and that the damage to the highways is as great from a load of persons as a load of freight; and it is contended that the dangers to persons and property on the highways are as great from a load of persons as from a load of freight. The Respondents, in answer, contend that the Legislature may lawfully make a classification of vehicles transporting freight and another of vehicles transporting persons, and fix a maximum weight load for one, and a different maximum, or none, for the other. It is shown that the number of vehicles transporting freight for hire on the highways very greatly exceeds the number of vehicles transporting persons for hire thereon, and it is also true that the average load weight of private vehicles transporting persons on the [fol. 242] highways is much less than seven thousand (7000) pounds, and that the average weight of private vehicles transporting persons on the highways is less than

the average weight of vehicles transporting freight for hire.

The intercourse between the people of the State, and between them and the people of other States, for business, educational, and social purposes, is largely dependent upon the safe, rapid and dependable transportation of persons, and the Legislature may well have determined and decided, as they seem to have done, that the transportation of persons upon the highways should be favored over, and as against, the transportation of freight, and that while the transportation of persons for hire and the transportation of persons in private cars should be regulated, as provided by existing Law, there should be no regulation of the load weight as in the transportation of freight. The Legislature may have determined, and doubtless did, that since the number of vehicles transporting persons for hire is so greatly less than those transporting freight for hire, the purposes of the Act, i. e. highway and traffic protection, would be met by limiting only the load weight of vehicles carrying freight. That the Legislature may lawfully do this, we have no doubt. J. H. McLeaish & Co. v. T. Binford et al., 52 Fed. (2d) 151, and authorities there cited; Ed Sproles v. T. Binford et al., 52 Fed. (2d) 730, and authorities there cited; Dow v. Beidelman, 125 U. S. 680; New York, New Haven & Hartford R. R. Co. v. New York, 165 U. S. 628; Chicago, Rock Island & Pacific Ry. Co. v. Arkansas, 219 U. S. 453; St. Louis, Iron Mountain & Southern Ry. Co. v. Arkansas, 240 U. S. 518; St. Louis Consolidated Coal Co. v. Illinois, 185 U. S. 203; McLean v. Arkansas, 211 U. S. 539; Booth v. Indiana, 237 U. S. 391; Miller v. Strahl, 239 U. S. 426; Watson v. Maryland, 218 U. S. 173; Engel v. O'Malley, 219 U. S. 128; Dillingham v. McLaughlin, 264 U S. 370; Heisler v. Thomas Colliery Co., 260 U. S. 245; Carley & Hamilton, Inc. v. Shook, 281 U. S. 66; Jones v. Brim, 165 U. S. 180; Hess v. Pawloski, 274 U. S. [fol. 243] 352; Fifth Ave. Coach Co. v. City of New York, 221 U. S. 467.

(6) In our former Opinion, we held Section 3f unlawfully discriminatory against Complainant and Intervenors. Since Section 5 is held valid, it is no longer so, and the reasons for granting the Interlocutory Injunction against the enforcement of Section 3f no longer exist.

This disposes of all questions we think it necessary to discuss, and a Decree will enter, dismissing Complainant's and Intervenors' Bills.

[File endorsement omitted.]

[fol. 244] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

In Equity. No. 476

ED. SPROLES, Complainant,

vs.

T. BINFORD et al., Respondents

DECREE DENYING INJUNCTION AND DISMISSING BILL—Filed Febry. 5, 1932

This cause came on to be further heard on final hearing on its merits upon complainant's and intervenors' application for a permanent injunction before the Honorable J. C. Hutcheson, Jr., Circuit Judge, Honorable Duval West and Honorable T. M. Kennerly, District Judges, sitting as a special statutory court and thereupon came the parties plaintiff, Ed. Sproles, and intervenors, Tennessee Dairies, Inc., Southern Transportation Company, Inc., Western States Grocery Company, Merchants Fast Motor Lines, Inc., Bull-Stewart Equipment Company, Inc., John B. Barber Trucking Company, Inc., W. F. Sproul, Wichita Falls Motor Company, W. F. Stevens and Yellow Cab Transit Company, and the parties defendant, T. Binford, O'Brien Stevens, R. J. Martin, J. R. Wright, Jessee E. Martin, Walter Prichard, J. H. Faulkner, Cone Johnson, W. R. Ely, E. K. Martin, L. J. Phares, R. V. Abernathy, James V. Allred and R. S. Sterling;

And the said special statutory court thereupon proceeded to hear the pleadings, the evidence, briefs and argument of counsel and the said Court being of the opinion that the complainant and intervenors are not entitled to an injunction,

It is considered, ordered, adjudged and decreed by the Court that complainants' and intervenors' prayer for an injunction be and the same is hereby denied and that this [fols. 245-248] cause be and the same is hereby dismissed for want of equity and that respondents recover from complainant and intervenors their costs herein expended.

Houston, December 31, 1931.

J. C. Hutcheson, Jr. (K.), Circuit Judge. Duval West (K.), T. M. Kennerly, District Judges.

[File endorsement omitted.]

[fol. 249] In United States District Court for the Southern District of Texas, Houston Division

In Equity. No. 476

Ed Sproles, Complainant,

v.

T. Binford et al., Respondents

Findings of Fact and Conclusions of Law—Filed March 18, 1932

Findings of Fact

I

We find that the complainant Ed Sproles, who filed this Bill on August 18, 1931, is doing business under the name of Sproles Motor Freight Lines, which is a common carrier of freight holding a Class A Permit issued by the Railroad Commission of the State of Texas, under which complainant operates a commercial motor freight line over a prescribed route from Houston, Harris County, Texas, through Waco, Dallas, Fort Worth, to Wichita Falls, Wichita County, Texas, and is subject to the rules and regulations of the Railroad Commission of Texas as to rates, service, insurance, and the like, as authorized by the laws of Texas; and that in such business complainant uses commercial motor vehicles, truck-tractors, trailers and semi-trailers,

all of which, prior to the passage of House Bill 336, (Ch. 282, Acts 42nd Legislature, p. 507, approved June 11, 1931), conformed to the terms and provisions of the laws of the State of Texas, then in force, and were licensed under the laws of the State of Texas to operate over its highways at license fees of approximately Ten Thousand Dollars ($10,000.00) per annum, and fifteen (15) combinations of vehicles are designed and were licensed to carry more than seven thousand (7000) pounds, and said lincensed expired December 31, 1931; that complainant Sproles owns about one hundred vehicles, which are designed to carry more than seven thousand (7000) pounds, and which are affected by the provisions of House Bill 336; that he maintains [fol. 250] warehouses, has many employees, and his investment in his business is more than $264,000.00, and he does an annual business of aproximately $400,000.00; that fifteen combinations of his vehicles have a carrying capacity of more than 7,000 pounds and exceed the length permitted by House Bill 336; that these fifteen combinations represent an investment of more than $115,000.00; that due to the size and weight of said combinations and the cost of their operation, he cannot limit the load to the 7,000 pounds prescribed by the Act and operate without a loss; and we further find that under the weight restrictions of House Bill 336, complainant cannot operate the aforesaid combinations without a loss; that complainant prior to and at the time of the passage of House Bill 336 had unexpired contracts with shippers predicated upon the former load weight limit permitted by law, and had equipment especially designed to carry out such contracts, on which equipment complainant will sustain a loss, but not a total loss. Complainant will also sustain a loss under such Contracts.

II

We find that persons and companies other than complainant and intervenors operate vehicles over the highways of Texas having a total value of approximately $150,000,000.00, but we find that, of all the registered vehicles on the highways, including trucks, buses and automobiles, less than .4 of 1% have a rated carrying capacity of more than 7,000 pounds; that not more than 5,500 trucks out of a total of 206,000, have a rated carrying capacity of more than

7,000 pounds, and are affected by the load limit prescribed in House Bill 336.

[fol. 251] III

We further find that the intervenor Yellow Cab Transit Company, which filed its Intervention September 3, 1931, is a foreign corporation with its principal place of business in Oklahoma City, Oklahoma; that it is a common carrier engaged in interstate commerce between the states of Kansas and Oklahoma on the one hand and Texas on the other; that in the course of its interstate business, it transports merchandise and freight from points in Oklahoma and Kansas to points in Texas; that it carries only interstate shipments; that intervenor's motor vehicles, truck-tractors, trailers and semi-trailers, conformed to the provisions of the laws of Texas in effect prior to the adoption of House Bill 336; that all of said vehicles at the time House Bill 336 became effective had been licensed under the laws of the State of Texas as vehicles authorized to use highways and transport loads in excess of 7,000 pounds; that such licenses did expire on December 31, 1931; that said intervenor has twelve (12) vehicles as defined by House Bill 336, which vehicles represent an investment of approximate $61,000.00; that due to the size and weight of said vehicles and due to the cost of their operation, intervenor cannot limit its load to 7,000 pounds and operate without a loss. That the load limit in Oklahoma and Kansas is a net cargo of 32,000 pounds upon vehicles used by this intervenor, and that he cannot, under House Bill 336, operate into Texas with such a load.

IV

We find that the intervenor Merchant's Fast Motor Lines, which filed its Intervention September 2nd, 1931, is a Texas corporation engaged as a common carrier in the transportation business under the regulations prescribed by the Railroad Commission of Texas; that it is the owner of seven combinations of truck-tractors, semi-trailers and trailers exceeding the length of forty-five feet, and several combinations averaging sixty to sixty-five feet; that said vehicles conformed to the laws of Texas in effect prior to the adoption of House Bill 336; that said vehicles were licensed

[fol. 252] also prior to the effective date of House Bill 336, and that said licenses did expire December 31, 1931; that under said licenses said combination vehicles were authorized to carry 25,000 pounds net load, and when added to the weight of the vehicles, made a gross load of approximately 52,000 pounds as to each such combination; that intervenor's investment in said vehicles is approximately $150,000.00; that the intervenor's gross business was approximatley $200,000.00 per annum; that said intervenor will be affected in a like manner as complainant; we find that all other facts with regard to the effect of this law on said intervenor's business are substantially the same as the findings of fact herein made with reference to complainant. That part of the route over which this intervenor operates is concrete and part asphalt, all being connected improved highway.

V

We find that intervenor Southern Transportation Company, which filed its Intervention September 2nd, 1931, is a common carrier by motor trucks over the highways of the State of Texas, and that the facts with reference to the operation of its business and the effect of House Bill 336 upon its business are substantially the same as the findings of fact herein made with reference to the complainant; we find that said intervenor does both an intra-state and interstate business and in its interstate operations the findings of fact with reference to this intervenor are substantially the same as the findings of fact with reference to intervenor Yellow Cab Transit Company. Intervenor has a large investment in equipment made prior to the passage of House Bill 336, and will be affected by the enforcement of such Bill similarly to the Complainant:

[fol. 253]

VI

We find that intervenor Bull-Stewart Equipment Company, which filed its Intervention September 2nd, 1931, is a Texas corporation transporting automobiles under contract with the Ford Motor Company of Detroit, Michigan, from a branch house of said Motor Company at Houston, Texas, in intra-state commerce to points in Texas; that said Ford automobiles are transported on specially de-

signed equipment consisting of a truck-tractor and a trailer fifty-five feet in length; that said contract was entered into prior to the passage of House Bill 336 and was predicated upon transporting four automobiles per vehicle per trip; that said limitation of the length of the equipment to forty-five feet will reduce the load to three automobiles per vehicle; that said intervenor cannot, under the terms of his contract, transport only three automobiles per vehicle without a loss. Intervenor has a large investment in equipment made prior to the passage of House Bill 336, and will be affected by the enforcement of such Bill similarly to the Complainant.

VII

Intervenor Tennessee Dairies, which filed its Intervention September 2nd, 1931, is a Texas corporation engaged in the distribution of milk and dairy products in Dallas, and in the conduct of that business, gathers its dairy products from the territory adjacent to Dallas; that in the operation of that business, intervenor operates motor vehicles equipped with tanks having a carrying capacity of 1,575 gallons of milk; that in order to load said tanks to their maximum capacity, it requires from 9,000 to 12,000 pounds of milk; that intervenor has invested in said tank trucks approximately $30,000.00; that the limitation of the load to 7,000 pounds will increase intervenor's operating costs from about $100.00 to $120.00 per day, depending upon the amount of milk carried in said trucks; that said tanks constructed on said trucks are thermostat tanks, equipped with cooling devices.

[fol. 254]

VIII

We find that intevenor Western States Groceries Company, which filed its Intervention September 2nd, 1931, operates nine trucks and twelve semi-trailers designed to carry in excess of 7,000 pounds per combination of vehicles and represents an investment of $41,000.00; that said equipment, acquired prior to the passage of House Bill 336, is operated by the intervenor in the distribution of his products in intra-state commerce. That intervenor's business will be affected in substantially the same manner as Complainant's by the enforcement of House Bill 336.

IX

We find that intervenor John B. Barbour Trucking Company, which filed its Intervention September 2nd, 1931, is engaged in the business of transporting oil field equipment and farm machinery in both intra-state and interstate commerce; that said intervenor owns twenty-three trucks and trailers, acquired prior to the passage of House Bill 336, representing a value of approximately $75,000.00; that due to the size and weight of said combinations and the cost of their operation, he cannot limit his load weight to 7,000 pounds and operate without a loss.

X

We find that intervenor G. F. Sproul is operating under substantially the same state of facts as John B. Barbour Trucking Company, and is in like manner affected.

[fol. 255]

XI

We find that intervenor W. T. Stevens entered into an agreement with Mager Cleaver & Company, of Dallas, Texas, in 1930, under the terms of which he was to transport all uncompressed cotton owned by said company and destined for Houston, Harris County, Texas; that pursuant to said agreement, intervenor Stevens transported approximately sixty thousand (60,000) square bales of uncompressed cotton over the highways of the State of Texas during the year 1930. That in order for said intervenor to transport properly and efficiently said uncompressed cotton as per his contract, it was necessary for him to acquire approximately forty (40) trucks, all equipped with semi-trailers and being of one and one-half to three ton capacity and representing an investment of about Fifty Thousand Dollars ($50,000.00).

We further find that said agreement between Stevens and Mager Cleaver & Company was renewed for the year 1931; that prior to the enforcement of said Section 3 (f) of House Bill 336, intervenor Stevens was transporting said cotton in loads of approximately twenty (20) bales per load, and that during the year 1930, intervenor Stevens earned and received the approximate sum of Five Thousand Dollars ($5,000.00) for the transportation services

rendered Mager Cleaver & Company under said agreement—said sum representing the net profit made.

We further find that the customary and usual square bale of uncompressed cotton is of a greater size than thirty cubic feet and that the average and usual square bale of uncompressed cotton, when compressed to a standard density, is less than thirty cubic feet in size; that the average and usual square bale of cotton, be it uncompressed or compressed, weighs approximately five hundred pounds, or more.

We further find that intervenor Stevens cannot conduct the transportation of said uncompressed cotton in com- [fol. 256] pliance with the provisions of said Section 3 (f), House Bill 336, on an economically sound basis, by charging the same rates now charged by railroad companies for the same service, and that in order to conduct said business on a basis permitting a profit, he would be compelled to charge a rate above that now paid to the railway companies for the same service; that by reason thereof, intervenor Stevens's business of transporting uncompressed cotton over the highways of the State of Texas will be destroyed under the enforcement of the provisions of said Section 3 (f) of House Bill 336.

We further find that there is no commodity generally and commonly transported over the highways of the State of Texas fitting and conforming to the commodity, "contained, boxed or bound in any container, box or binding, containing more than thirty cubic feet and weighing more than five hundred pounds" in such large quantities as square bales of uncompressed cotton.

We further find that intervenor Stevens has been threatened with arrest and prosecution for any violation he might commit of said Section 3(f), House Bill 336.

We further find that if said Section 3(f), House Bill 336, is enforced as against intervenor Stevens, he will suffer a great financial loss in that the equipment heretofore used by him in pursuit of the business of transporting uncompressed cotton over the highways will be rendered useless to him, and that in attempting to sell said equipment, he will probably have to offer same at a sacrifice and a material loss.

[fol. 257] XII

We find that the provisions of House Bill 336 with the exception of the 7,000 pound net load limit became effective on August 22, 1931, and that the net load limit of 7,000 pounds became effective January 1, 1932.

XIII

That the complainant and those intervenors who are common carriers by motor truck are operating under the jurisdiction, rates, rules and regulations prescribed by the Railroad Commission of the State of Texas.

XIV

That the limitation of the length, width and height, and the net load per vehicle and combination of vehicles, as prescribed by House Bill No. 336, are reasonable requirements in the interest of public safety and convenience and highway protection and conservation.

[fol. 258] XV

That the limitation of the load to fourteen packages, boxes, barrels or bales, of dimensions exceeding thirty cubic feet and weighing more than five hundred pounds, as is prescribed by Section 3(f) of House Bill 336, is a reasonable classification related to the safe transportation of said boxes, bundles, bales, etc. over the highways in motor vehicles, when construed and considered in connection with the provisions of Section 5 of said House Bill 336. That when said Section 3(f) is construed and considered independently of the provisions of said Section 5, said Section 3(f) has no just relation to the supposed mischiefs to be remedied, is unreasonable, and is unlawfully discriminatory against and oppressive to intervenor W. T. Stevens. Reference is made to Opinions filed September 30, 1931, and January 27, 1932, respectively.

XVI

We find that there are approximately 200,000 miles of state and county highways in Texas, and that less than 20,000 miles of these highways are State Designated Highways; and that the improvements to the State Designated

Highway System represent a public investment of more than $250,000,000.00.

XVII

We find that the maintenance cost of State Designated Highways for the past three years averaged $12,000,000.00 per annum, and that the maintenance cost of the more than 180,000 miles of county highways is many millions of dollars annually. Complainant and Intervenors pay substantial highway license and gasoline tax towards such maintenance.

[fol. 259]

XVIII

We find that the intervenor Wichita Falls Motor Company filed its Intervention September 2nd, 1931. The Wichita Falls Motor Company is not using the highways. It manufactures and sells a certain type or certain types of vehicles which do not comply with the requirements of House Bill 336. It is claimed, and we find, that this intervenor would have grave difficulty in hereafter selling the type of vehicles for use in Texas, and difficulty in collecting for those already sold. Its business would be seriously affected by the enforcement of House Bill 336.

XIX

It is clear that in enacting House Bill 336, the Legislature of Texas found as a fact that 7,000 pounds load weight, plus the weight of the vehicle, is the maximum load that should be allowed to pass over the Texas Highways, taking into consideration the manner of past and present construction, probable future construction, cost of maintenance, strength of bridges, condition of traffic, etc. The preponderance of the evidence before us supports and confirms this finding.

XX

The Court finds that there are highways of concrete and other rigid and semi-rigid type of construction and also bridges capable of carrying a greater load than 7,000 pounds, but that they do not form a regularly connected system, and are scattered throughout the state; that these

better types of construction are connected and joined by constructions of a lower or inferior type; that transportation must conform itself generally to these conditions. That as stated above, there are in this system all types of roads, ranging from dirt, gravel, shell, asphalt and bitulithic to concrete and brick highways, of varying degrees of strength; that the operations of the complainant and intervenors and others similarly circumstanced are conducted over all types of highways and bridges, except in some instances where it happens that operations may be [fol. 260] over a regular route, as in Paragraph IV hereof. That House Bill 336 was enacted by the Legislature in the interest of the whole State for the benefit of the State in general and for the protection of the traveling public and the State Highway System in particular, and that the operations of the complainant and intervenors constitute only a very small portion of the traffic which is borne by the highways of this State.

XXI

We find that the number of trucks in use on the highways of Texas has increased 300% in the last six years; that official registrations show an increase from 65,536 in 1924 to 206,527 in 1930; that this count does not include the large increase in inter-state truck traffic; that this unusual increase in truck density justifies the dimensional and weight restrictions of House Bill 336 in the interest of public safety and convenience and highway protection.

XXII

We find that in 1930 there were only 900 passenger buses operating over the highways of Texas, representing less than .004 of 1% of the total number of vehicles on the highways of this state; that such passenger buses, while similar in many respects in construction to trucks carrying freight, are specially equipped to haul passengers, operate under regulations of the Railroad Commission and under conditions wholly different from that of trucks; that the difference between these two types of vehicles, and the number of each type, and in their operation is ample justification for legislative classification, and is reasonably related to the objects sought to be accomplished by this law; that since

there is a great difference between the conditions under which the two types of vehicles are operated, that the Legislature may reasonably classify said vehicles and apply to motor trucks different regulations from those applicable to [fol. 261] motor buses; and that therefore the provisions of this Act regulating the speed are just, fair, reasonable regulations based upon differences between the respective classes above referred to; that since the operation of trucks is essentially different from the operation of buses, no unlawful discrimination is made against them because they are subject to different regulations with respect to net load, and we find that this difference between the two classes is reasonably related to the objects sought to be accomplished by this law.

XXIII

We find that the density of truck traffic on the highways has greatly increased in the State of Texas during recent years; that truck traffic on the various highways of this State has increased from 40% to 500% during the last three years.

XXIV

We further find that excessive loads on trucks are damaging to the highways; that a limitation of the net load to 7,000 pounds prescribed by House Bill 336 will cause a saving to the State in maintenance costs.

XXV

We find that heavily loaded trucks, in addition to causing damage to the highways, has been the cause, from time to time, of accidents on the highways; that reduced loads will result in greater safety to the traveling public and in less damage to the highway; we further find that a limitation of the net load to 7,000 pounds provided for by House Bill 336 will have the effect of reducing traffic dangers on the highways and adding to the public convenience in the ordinary use of such highways.

[fol. 262] XXVI

We further find that on account of the width of traffic lanes on the highways of Texas, vehicles of greater width,

or length than that prescribed by House Bill 336 are hazardous for passing traffic; that a lighter load and a lesser width and length will materially reduce this hazard.

XXVII

We further find that there is a direct relationship between the net load and gross load of a motor truck and that the restriction of net load to 7,000 pounds bears a direct relation to highway safety and convenience and highway protection; and we further find that the limitation of the load to 7,000 pounds is reasonable.

XXVIII

We further find that there are low underpasses and bridge portals in Texas, making necessary the height limit of 12½ feet which is prescribed by House Bill 336; that a low center of gravity makes a truck less likely to topple over or spill on the highway, and for that reason less hazardous and dangerous to the traveling public.

XXIX

We further find that any injuries which may result to complainant and intervenors from the enforcement of this law will be such as naturally follow from a change in the Law and the enforcement of a valid regulatory measure designed for highway safety and convenience and for highway protection, and that said law is a fair and reasonable exercise of the police power of the State of Texas under the authority of which the State has the right and power to regulate the length, width, height, speed and weight of motor vehicles and combinations thereof as well as the net loads transported on such vehicles when used on the public highways of the State of Texas.

[fol. 263] XXX

We further find that in order to carry on the business of farming, implements of husbandry, plows, threshing machines, hay presser, etc., must be moved from one farm or place to another; that the highways of this state are used only temporarily for this purpose; that the same is true of water well drilling machinery, and highway construction

machinery; that these uses of the highway are temporary only and essential to public welfare; that while some of these implements exceed the dimensions prescribed for trucks, their use of the highways is negligible and is not authorized except for the purpose of transporting the same for use in husbandry and road construction and for the purpose of drilling water wells, and that the exception made in Section 3 of the Act with reference to these implements and machines is a reasonable classification and is fairly related to the objects sought to be accomplished by this law, and that complainant and intervenors are not similarly situated or circumstanced to the person who makes such temporary uses of the highways.

XXXI

We find that the average distance traveled by trucks carrying property from points of origin to common carrier receiving points or from common carrier unloading points to destination is from four to eight miles; that these hauls are universally short; that such operations are confined to small areas and greatly reduces the danger of traffic congestion or highway injury incident to truck transportation; and the Court finds that those transporting under the exception permitted by Section 5 (b) of the Act do so under distinctly different circumstances and conditions from complainant and intervenors who transport over fixed routes, and from other persons using the highways, and that these [fol. 264] differences justify the classification which is made by the Legislature; we further find that this exception will have the effect of diverting from the highways generally a great deal of traffic which will have the effect of reducing highway congestion and danger, and that for this additional reason such classification is just, fair, and reasonable.

XXXII

We further find that under the terms and provisions of Section 2 of the Act, it is made the mandatory duty of the Highway Commission of Texas to grant permits for the transportation over the highways of such oversize, overlength or overweight commodities as cannot be reasonably dismantled, and for the operation over said highways of extra heavy and oversize equipment in connection there-

with; that there are a number of commodities in this state such a- boilers, transformers, telephone poles, etc., as cannot be reasonably dismantled; that it is necessary to transport such commodities; that the duty imposed upon the Commission by said Section is not a delegation of power to suspend the Laws of the State of Texas, nor does said provision delegate legislative power to the officers of the State; that the Commission in the performance of the duty of issuing special permits is acting as a fact finding body and in an administrative capacity, and that the classification is a fair and reasonable one, and that a certain and definite standard or guide is prescribed as the basis of determining whether or not such special permits shall be granted.

Conclusions of Law

XXXIII

We conclude that the injury (Paragraph XVIII, Findings of Fact) to the Wichita Falls Motor Company is too remote to entitle it to any relief.

[fol. 265]

XXXIV

We conclude that House Bill 336, insofar as it regulates or seeks to regulate the size of vehicles, loads, speed of vehicles, and makes provision for the safety of the public and protection of the highways, is well within the Legislative Power, and valid.

XXXV

We conclude that Section 3 (a) of such Act, respecting the transportation of implements of husbandry, well drilling, and highway construction machinery, is valid.

XXXVI

We conclude that Section 3 (c), exempting from the operation of the Act vehicles operating in incorporated cities and towns, is valid.

XXXVII

We conclude that Section 7 (Section 5b) of the Act, respecting the length, weight and load of vehicles used in

transportation to and from common carrier unloading points, is valid.

XXXVIII

We conclude that Section 5 of the Act, fixing the maximum load weight to be transported over the highways, is valid.

XXXIX

We conclude that Section 3 (f) of the Act, limiting the number of containers in a load which may be transported over the highways, is valid when construed in connection with Section 5 of the Act.

XL

We conclude that Section 2 of the Act, creating a fact finding body with respect to unusual and extraordinary loads and vehicles, is valid.

[fol. 266]

XLI

We conclude that neither the Act as a whole, nor any part of it, unduly interferes with interstate commerce.

XLII

We conclude that the Act, in failing to make additional regulations regarding passenger buses, does not unlawfully discriminate against complainant and intervenors, nor against persons transporting freight by truck.

XLIII

We conclude that the whole Act should be upheld as a valid regulation for the protection of the highways and traffic thereon, and that it is well within the power of the Legislature to enact.

XLIV

We refer to Opinions filed September 30, 1931, and January 27, 1932, for a more detailed statement of our views respecting the Law of this Case.

J. C. Hutcheson, Jr., United States Circuit Judge. Duval West, K., United States District Judge. T. M. Kennerly, United States District Judge.

[fols. 267-271] [File endorsement omitted.]

[fol. 272] IN UNITED STATES DISTRICT COURT

[Title omitted]

ASSIGNMENT OF ERRORS—Filed March 19, 1932

Come now the Complainant and Intervenors in said above styled and numbered cause and file the following Assignment of Errors upon which they will rely upon their appeal from the decree made by this Honorable Court on the 30th day of December, 1931, in the above entitled cause, and say that this Honorable Court erred in the following respects:

I

The Court erred in holding that Section (2) of House Bill No. 336, Chapter 282, Page 507, Acts of the regular session of the 42nd Legislature of the State of Texas is constitutional because in said section of the aforesaid Act there is contained a provision authorizing the suspension of the criminal laws of the State of Texas contrary to Section (28), Article I of the Texas Constitution and to Clause (1) of Article (14) of the Amendments to the Constitution of the United States.

[fol. 273]

II

The Court erred in holding that Section (2) of said Act is constitutional in that Section (2) of said Act violates Section (1) of Article (14) of the Amendments to the Constitution of the United States in that it prohibits the operations of any vehicle over the highways of the State of Texas exceeding the dimensions specified in said act and by Section (3) of said Act, there is excepted from the operation of said law, farm tractors and implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highways, and such exceptions make said act and its attempted classification unreasonable, arbitrary and discriminatory in violation of the aforesaid Section of the Constitution of the United States.

III

The Court erred in holding that Section (2) of said Act is constitutional for the reason that said Section is vague,

indefinite and uncertain in that it provides for special permits to be given by the Highway Commission of the State of Texas for "over-size or over-length commodities as cannot be reasonably dismantled" and no standard or guide is given such Commission by which it can be uniformly determined as to what commodity can be reasonably dismantled, and, therefore, said Act violates the above mentioned Amendment to the Constitution of the United States.

IV

The Court erred in the holding that Section (2) of said Act is constitutional for the reason that in Section (7) of said Act it is provided that the limitations imposed by the Act as to the length of vehicles or combinations of vehicles and weight of loads and of weight of vehicles with loads [fol. 274] shall not apply to vehicles in use to transport property from point of origin to the nearest practicable common carrier receiving or loading point or from a common carrier and loading point by way of the shortest practicable route to destination, provided said vehicle does not pass a delivery or receiving point of a common carrier equipped to transport said load, or when used to transport property from the point of origin to the point of destination thereof when the destination of such property is less distant from the point of origin thereof than the nearest practicable common carrier receiving or loading point equipped to transport such load, and thereby Complaint and Intervenors are denied the equal protection of the law contrary to Section (1), of the 14th Amendment to the Constitution of the United States, as under said act there is a discrimination made against Complainant and Intervenors who operate under substantially the same conditions as those who transport property under the privilege accorded them by Section (7) of said Act.

V

The Court erred in holding that Section (3) of said Act is constitutional for the reason that there is created by Section (3) of said Act a classification which is unreasonable, arbitrary and discriminatory in that it excepts from the general provisions set out in Section (3), farm tractors, implements of husbandry and highway building and mainte-

nance machinery as distinguished from vehicles used by Complainant and others similarly situated, thus violating the equal protection clause of the 14th Amendment to the Constitution of the United States.

VI

The Court erred in holding that sub-division (f) of Section (3) of said Act was constitutional for the reason that by said Sub-division there is created a classification which is unreasonable, arbitrary and discriminatory and without [fol. 275] any substantial relation to the purpose of the Act in making a distinction between commodities which are boxed or bound in containers or bindings and those not so boxed or bound, and in making a distinction between commodities which are boxed or bound in bales or packages of thirty cubic feet or more in bulk and weighing more than 500 pounds and those boxed or bound in bales or packages of less bulk or weight thus violating the equal protection and due process clauses contained in the 14th Amendment to the Constitution of the United States.

VII

The Court erred in upholding the constitutionality of Section (5) of said Act, dealing with weight limitations, for the reason that said Section is discriminatory as it limits the load that may be transported on trucks owned by complainant and intervenors to seven thousand (7,000) pounds, but permits motor buses to operate without limitation as to load, contrary to the provisions contained in Section (1), Article 14, of the Amendments to the Constitution of the United States.

VIII

The Court erred in holding that Section Five (5) of said Act is constitutional because under the provisions of Section (7) of said Act, under named conditions, vehicles may be operated having a length of fifty-five (55') feet, carrying net loads of 14,000 pounds without any restrictions as to length of combinations, upon each unit of which, 14,000 pounds can be carried, a privilege denied Complainant and Intervenors, thus making a purely arbitrary classification in violation of the equal protection clause of the 14th Amendment to the Constitution of the United States.

IX

The Court erred in holding that Section (5) of said Act, fixing a 7000 pound load limit, is constitutional for the reason that such restriction is a purely arbitrary regulation which has no reasonable relation to highway protection and is, therefore, contrary to the provisions of the 14th amendment to the Constitution of the United States.

[fol. 276]

X

The Court erred in holding that said Act is a fair and reasonable highway regulation as applied to the Intervenor, Yellow Cab Transit Company, an interstate operator, for the reason that under the evidence herein the imposition of a restriction to a load limit of 7000 pounds is an undue burden upon Interstate Commerce and such restriction has no fair and reasonable relation to the objects of the Act, and, therefore, violates Article (1), Section (8), Clause (3), of the Constitution of the United States, relating to the regulation of commerce among the several states.

XI

The Court erred in holding that said Act is valid for the reason that the evidence shows that said Act, in restricting loads to 7000 pounds, prevented Complainant and Intervenors from complying with certain existing contracts entered into, prior to the enactment of said Bill, thereby impairing the obligation of contracts contrary to Section (10) Article (1), of the Constitution of the United States.

XII

The Court erred in refusing to find as a fact that the testimony in this case showed that it was impossible for Complainant, Intervenors and those similarly situated, to engage in their respective businesses at a profit under the weight restrictions of this law, as the undisputed testimony shows that Complainant and Intervenors can not operate their respective Truck Lines when permitted to carry a load of only 7000 pounds, because under such restrictions the cost of operation makes it prohibitive, and, therefore, said Act is unconstitutional as it is an unreasonable law having no relation to the objects of the Bill, thus violating

the Due Process Clause contained in the 14th Amendment to the Constitution of the United States.

[fol. 277]

XIII

The Court erred in refusing to find from the evidence introduced herein that there was no reasonable relation between the net load of the vehicle and the damage which said vehicle might likely cause to the highway or the travelers thereon, as the evidence in this case was that there is no reasonable relation between a net load restriction of 7000 pounds and the objects sought to be accomplished by the legislation.

XIV

The Court erred in finding as a fact that there was any reasonable basis for making a classification of commercial motor trucks and motor buses and applying different weight restrictions to each class, because under the testimony in this case, both classes make like use of the highway and there is no material difference in the manner and way in which they use such highways, which is sufficient to justify a different classification.

XV

The Court erred in refusing and failing to find as a fact that there was no reasonable basis for making a classification with respect to those vehicles operating under the provisions of Section (7) of said Act and other vehicles not operating under the conditions enumerated under Section (7) for the reason that the testimony in this case was that in each instance, like use of the highways is made and the attempted classification has no reasonable relation to the objects of said law.

XVI

The Court erred in concluding as a matter of law that said Act is a fair and reasonable exercise of the Police Power of the State of Texas for the reason that:

(a) Said Act discriminates against Complainant and Intervenors by making classifications which have no rea-

[fol. 278] sonable relation to the objects of the law, thereby violating the 14th Amendment to the Constitution of the United States.

(b) Because a net load restriction of 7000 pounds is purely arbitrary and has no fair and reasonable relation to the objects of said law.

(c) Because the testimony herein does not support the Court's findings that the classifications attempted in said Act are fair and reasonable having reasonable relation to the objects of said law, but on the contrary, the testimony shows that said classifications are purely arbitrary and unrelated to the objects of said legislation and, therefore, violate the equal protection clause contained in the 14th Amendment to the Constitution of the United States.

(d) Because the testimony herein does not support the finding of the Court that a net load limit of 7000 pounds has some reasonable relation to the objects sought to be accomplished by the law, but on the contrary, the testimony discloses that a 7000 pound load restriction is purely arbitrary and wholly unreasonable, and is designed merely to regulate business and not to protect the traveling public or the highways, thereby violating the due process clause contained in the 14th Amendment to the Constitution of the United States.

XVII

The Court erred in dismissing the Bill of complaint and respective petitions of intervention herein, for the reason that Complainant and Intervenors by the undisputed testimony, showed irreparable damage by reason of the enforcement as against them of the weight restrictions contained in said Act, and said Act being unconstitutional in that it violates the 14th Amendment to the Constitution of the United States, the Court should not have dismissed said bill of complaint and respective petitions of intervention, but should have granted an injunction permanently restraining the enforcement of the weight restrictions of said Act.

[fol. 279] XVIII

The Court erred in admitting in evidence the testimony of George A. Knapp which related to an examination he had made of certain records of the State Highway Depart-

ment at Austin with reference to the safe carrying capacity of many of the bridges of the State of Texas; the witness stating that his information with reference thereto was secured from a study of certain records in the Highway Department at Austin and said witness was permitted to place in evidence a schedule of bridges purporting to show the safe load capacities of bridges on Texas state highways, such exhibit being shown on pages 202 to 205 inclusive of the narrative of the evidence; that said testimony was objected to by complainant and intervenors on the grounds that same was purely hearsay and was not the best evidence, which objection the court over-ruled and permitted said testimony to be admitted.

Wherefore, in order that the foregoing assignment of errors may be and appear of record, complainant presents the same to the Court and prays that such disposition be made thereof as in accordance with law and the statutes of the United States in such case made and provided; and complainant prays that said decree entered December 30, 1931, be reversed and that a decree be entered in accordance with the rights of complainant and intervenors.

Frank H. Rawlings, Frank Rawlings, Fair Building, Ft. Worth, Texas; Chas. I. Francis, Charles I. Francis, Staley Building, Wichita Falls, Texas; J. B. Dudley, J. B. Dudley, 1001 Petroleum Building, Oklahoma City, Oklahoma; LaRue Brown, Larue Brown, Boston, Mass.; W. B. Bates, Leon Jaworski, Houston, Texas, Attorneys for Appellants.

[File endorsement omitted.]

[fol. 280] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

In Equity. No. 476

ED SPROLES, Complainant,

vs.

T. BINFORD et al., Respondents; JOHN B. BARBOUR TRUCKING COMPANY et al., Intervenors

ORDER ALLOWING APPEAL—Filed Mch. 19, 1932

The petition of complainant and intervenors herein praying appeal from the final decree heretofore entered in this

court dismissing their bill of complaint and petitions of intervention for want of equity, being now presented,

It is hereby ordered that an appeal be allowed to the Supreme Court of the United States, Washington, D. C., as prayed for and that a transcript of such part of the record and proceedings herein as the parties may by præcipe duly designate be transmitted, duly authenticated, to the Supreme Court of the United States, Washington, D. C., in the manner provided by law.

It is further ordered that bond for costs to be given by complainant and intervenors on said appeal be and the same is hereby fixed at the sum of One Thousand ($1,000.00) Dollars, conditioned as provided by law, and surety to be approved by the Judge of this Court.

Done and ordered in open court at Houston, Texas, this 19th day of March, A. D., 1932.

J. C. Hutcheson, Jr., United States Circuit Judge.
[fols. 281-287] Duval West, United States District Judge. T. M. Kennerly, United States District Judge.

[File endorsement omitted.]

[fols. 288] [File endorsement omitted]

[fol. 289] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION

In Equity. No. 476

ED SPROLES, Complainant,

vs.

T. BINFORD et al., Respondents

Narrative Statement of the Evidence—Filed March 23, 1932

There was a stipulation made by the parties in the above styled and numbered cause, which was reduced to writing, and with the approval of the Court, filed as a part of the record in the case. Such stipulation was as follows:

STIPULATION AS TO CERTAIN TESTIMONY

In complainant's and interveners' petition there are allegations of fact as to the general business in which each is engaged, the number of vehicles owned by each, the volume of business transacted, and the nature and extent thereof, and the amount of the investment, and the effect of House Bill 336 upon such businesses. It is agreed that each of the parties verifying said petitions will testify that such facts are true and that such testimony may be transcribed into the record as the testimony of such witnesses.

In construing said stipulation, the Court ruled that the [fol. 290] record should show that witnesses testified by affidavit and were not subjected to cross-examination, except certain expert witnesses, as hereinafter shown, testified by affidavit and were thereafter tendered for cross-examination.

The Court ruled that nothing in the stipulation of the parties would limit the effect of the testimony or make it any less available to the parties because it came in by affidavit than if the witness were present in court testifying under oath as is customary, and that the affidavits would be used simply in lieu of oral testimony by the witness in court, and that in each instance the record would reflect whether or not there was cross-examination.

The following testimony was offered by complainant and interveners as direct testimony:

Thereupon complainant offered in evidence a photostatic copy of House Bill 336, which, in its material parts, is copied in the original bill of complaint and is hereby referred to for all purposes, appearing herein on pages — to — of the Record.

Under the stipulation with reference to the use of the allegations of fact contained in the pleadings of complainant and interveners, the testimony of the following named 11 witnesses was offered, there being no cross-examination: [fol. 291] Ed Sproles; D. C. Sanders; E. C. Grant; A. S. Wagner; John W. Luton; A. J. Harrell; K. V. Lipscomb; Gayle Park; W. O. Beeman; G. F. Sproul and W. T. Stevens.

ED SPROLES stated that he was doing business under the name of Sproles Motor Freight Line, operating a com-

mercial motor freight line, having offices in Houston, Harris County, Texas, Waco, McLennan County, Texas, Dallas, Dallas County, Texas, Fort Worth, Tarrant County, Texas, and Wichita Falls, Wichita County, Texas; that in the conduct of said business he held himself out to the public as a carrier of goods, wares and merchandise for hire, using the highways of the State of Texas between the cities above enumerated and intermediate points, and that in such business he used commercial motor vehicles, truck tractors, trailers and semi-trailers, all of which conformed to the terms and provisions of the laws of the State of Texas before amended by House Bill 336, and that all of said vehicles were licensed under the laws of the State of Texas as vehicles authorized to use the highways of the State of Texas in the transportation of goods, wares and merchandise tendered him by the public in general. That he had approximately 100 vehicles now in use in said business and he kept and maintained large warehouses, terminals and offices in each of the cities above mentioned, as well as in numerous intermediate towns along the route served by this transportation line and that his gross business amounted to ap- [fol. 292] proximately $400,000.00 a year, and that in said business he employed many skilled workmen, drivers, auditors, bookkeepers, inspectors and miscellaneous clerical help, and in said business had an investment of $264,490.26.

That on or about February 1, 1931, he paid to the State of Texas annual highway license fees aggregating the sum of approximately $10,000.00, and in consideration therefor was granted a license by the State of Texas to use his equipment aforesaid in the conduct of his business for and during the current year ending January 31, 1932; that in the conduct of his business he was paying the State of Texas a gasoline tax of approximately the sum of $1,400.00 per month, which tax was in part used for the construction and maintenance of the highways of the State of Texas. That he owned fifteen combinations of vehicles, truck tractors, trailers and semi-trailers, upon each of which he was authorized under his license from the State of Texas to carry loads in excess of 7,000, and that said combinations were purchased for use in the business of transporting goods, wares and merchandise over the highways of Texas, as aforesaid, and such were now being used for such purpose,

and complied in all respects with the State highway regulations and other valid laws with respect to the construction and use of motor vehicles upon and over the highways of Texas; that he owned fifteen combinations, consisting of truck tractors, semi-trailers and trailers in excess of a [fol. 293] total length of 45 feet, which are operated over the highways of Texas and not exclusively within the limits of any incorporated city or town in the State, and that said fifteen combinations of vehicles represented a capital investment of $115,928.33, the use of which was prohibited by the provisions of House Bill 336; that he had unexpired contracts which could not be fulfilled by the use of vehicles constructed and operated in accordance with the provisions of House Bill 336, and that he would be able to renew and extend the time of said contracts for further periods of time upon the expiration thereof if not prevented from so doing by reason of the provisions of House Bill 336; that to carry out the terms and provisions of said contracts and to conduct the transportation business aforesaid, he had invested large sums of money in specially constructed equipment, the operation of which was prohibited by the terms of House Bill 336, and such equipment was rendered valueless, as it could not be profitably used for any other lawful purpose in the State of Texas if the provisions of House Bill 336 were enforced; that his motor vehicles and combinations thereof purchased for his business aforesaid could not be used for any other purpose of Texas as their use over the highways of the State of Texas was prohibited by the terms and provisions of House Bill 336; that his rates and charges as a common carrier were fixed by the regulations of the State Railroad Commission and he had no authority to alter or [fol. 294] change the published tariff of said Commission, and that under the proposed law limiting the length of combinations of vehicles and the net load transported, it would cost him such an additional amount as that no profitable load could be transported, thereby destroying complainant's profitable business and rendering it impossible for him to continue in the business which he had built up over a period of many years; that his vehicles, or combinations thereof, were operated by efficient dirvers, duly licensed under the laws of Texas, and that said vehicles were so constructed as that no whipping or other movement is possible by the semi-

trailers or trailers, and that he operates his vehicles over the highways of Texas in such a manner as not to endanger the traveling public or injure the highways of the state, and that such vehicles are absolutely safe in every respect for operation over said highways, and that said vehicles and combinations are the only type of vehicles which can be so operated in safety and permit a fair and reasonable profit to the owner in the conduct of a transportation business, and that no other type of vehicle than the type owned and operated by him could be operated in a transportation business under the laws of the State of Texas without loss to the owner thereof and without great danger to the person and property of other travelers on the Texas highways; that in the conduct of said business he has been able to transport goods and merchandise with much quicker dispatch and at [fol. 295] much less cost to all parties concerned than can be done thru the use of any other mode of conveyance aside from the type of vehicles which he uses, and that any other mode of motor transportation is inadequate to meet the needs of the shipping public.

That the total value of commercial vehicles, truck tractors, trailers and semi-trailers, and combinations thereof, the operation of which on the highways of the State of Texas are prohibited by House Bill 336, is approximately $150,000,000.00, and that such other vehicles are owned by many citizens of the State of Texas engaged in businesses similar to that conducted by him, and that all of such motor vehicles and combinations thereof, including those owned by him, are forbidden the use of the highways of the State of Texas, or the use of such vehicles rendered unprofitable by the restrictions imposed by the legislative enactment above mentioned, which said law became effective as to dimensions on August 22, 1931; that the enforcement of said bill against him would result in irreparable damage and injury and virtually destroy his business; that under House Bill 336 he cannot transport goods, wares and merchandise between Houston, Texas, and Dallas, Texas, over the route he customarily traverses, his equipment exceeding the maximum weight and dimensions restrictions provided by said Act, while at the same time other persons engaged in the transportation business can haul over said highway [fol. 296] more than 7,000 pounds where they are trans-

porting same to railroad receiving points; that a part of complainant's route is between Dallas, Dallas County, Texas, and Fort Worth, Tarrant County, Texas, a distance of approximately 35 miles, and that he cannot over this portion of his route transport more than 7,000 pounds, but those who are carrying to the intervening common carrier receiving points between Dallas and Fort Worth can transport 14,000 pounds.

That under House Bill 336 operators of motor buses carrying passengers are permitted to operate thruout the state without restriction as to the net load; that he and his employees have been threatened with arrest and will be arrested for violating the provisions of said law and that it is impossible for him to continue in his transportation business under the provisions of said Act, as no profitable load can be transported under the weight restrictions thereof; that the cost of operating heavy equipment such as that owned by him and being prohibited from carrying over 7,000 pounds pay load thereon makes a continuous loss inevitable and renders it impossible for him to profitably operate under the provisions of said Act.

D. C. SANDERS, President of the Merchants Fast Motor [fol. 297] Lines, Inc., stated that Merchants Fast Motor Lines, Inc., is a Texas corporation, having its principal place of business in Fort Worth, Tarrant County, Texas, and that it is engaged in the transportation business as a common carrier under the supervision and regulation of the Railroad Commission of Texas, operating a transportation line between Dallas, Texas, and Midland, Texas; and Dallas, Texas, and San Angelo, Texas, and intermediate points over highways Nos. 1, 1-A and 4; that the Merchants Fast Motor Lines, Inc., is the owner of 7 combinations of truck tractors, semi-trailers and/or trailers exceeding in length, as individual combinations, forty-five feet, such separate combinations averaging between sixty and sixty-five feet in length, and in all respects complying with the statu-e, laws, rules and regulations of the State of Texas now in force in reference to the regulation of motor vehicles, and that each and all of said combinations have been duly and regularly licensed by the State of Texas for the current

year, expiring January 31, 1932; that said combinations aforesaid are licensed to carry 25,000 pounds net load, making a gross weight when loaded of approximately 52,000 pounds, as each combination when empty weighs approximately 27,000 pounds.

That in addition to the seven combinations aforesaid, he is the owner of 20 vehicles which are licensed to carry and are carrying and ordinarily transport net loads in excess of 7,000 pounds, such consisting of four-wheel trucks, truck [fol. 298] tractors and semi-trailers in combination, commonly referred to as six-wheel units.

That in the seven combinations first mentioned, said company has an investment of approximately $70,000, and in the 20 vehicles last mentioned it has an investment of approximately $80,000, and that if the terms and provisions of the aforesaid law with reference to length and weight restrictions are enforced against said company, as will be done, said company will be deprived of the value of its property aforesaid and will be irreparably injured, as it is impossible for it to conduct its business at a profit under the restrictions of said Act, to-wit: House Bill 336; that said vehicles are of such a type as that they cannot be profitably operated if restricted to a 7,000 pound net load, unless they be continuously operated at a loss.

That the route over which said company conducts its transportation business is a hard surfaced highway built of concrete, brick and asphalt, so constructed as that it is classified by the Highway Commission of the State of Texas as a Class One highway, and as such is built and constructed in such manner and way as that it is capable of sustaining traffic by commercial motor vehicles, truck-, tractors, trailers and semi-trailers of those dimensions and of gross weight now authorized by the present laws of the State of Texas without any damage to said highways or to the [fol. 299] traveling public using same, and that the vehicles and combinations used by said company in its transportation business do not in any way injure said highways or imperil the traveling public using same; that during the past eleven years said company has built up a large and lucrative transportation business, doing a gross volume of business in excess of $200,000.00 per year, and that said company has invested in said business the sum of $285,000.00, and that its total investment in motor transportation

is in excess of the sum of $110,000.00, and that all of said business will be virtually destroyed and confiscated in the event the respondents are not restrained from enforcing the provisions of House Bill 336.

That the company has made contracts which extend into the year 1932, under the terms and provisions of which it has agreed to transport in specially built refrigerator cars fresh meats and packing house products put up by the packing houses in Fort Worth, Tarrant County, Texas; that said equipment has been specially designed and built at great cost for the special purpose of carrying and transporting loads in excess of 7,000 pounds, and that said company has been allowed by the Railroad Commission of the State of Texas a special commodity rate at lower than the regular commodity rate for the transportation of such products which can only be profitably transported by said company at such rates allowed by the Railroad Commission by trans- [fol. 300] porting loads of from 9,000 to 12,000 pounds, and if the company is required to carry a load not in excess of 7,000 pounds, such must be done at a continued loss to the company's irreparable injury and damage.

That the combinations of vehicles exceeding 45 feet in length used by said company in the conduct of its transportation business and the other vehicles used by said company upon which loads in excess of 7,000 pounds are carried, do not in any way damage the highways or interfere with the use thereof by the traveling public; that in truth and in fact, such vehicles above mentioned do not injure said highways or unnecessarily interfere with the traveling public in the use of said highways any more than implements of husbandry, including machinery used solely for the purpose of drilling water wells and highway maintenance and building machinery, temporarily propelled or moved upon the public highway.

That said company has paid to the State of Texas as license fees for its vehicles aforesaid the sum of approximately $7,200.00, and that during each year it pays to the State of Texas a gasoline tax of approximately $7,500.00, such being used largely for the purpose of constructing and maintaining highways of the State of Texas.

That the company is prohibited from transporting any load in excess of 7,000 pounds from a point five or six miles northeast of Abilene, Texas, over the highway to Albany,

[fol. 301] Texas; that such distance is approximately 35 miles, and that his company is entitled to receive fifty-three cents per hundred pounds for any load transported between said points. That under the provisions of House Bill 336, not more than 7,000 pounds could be transported from the point northeast of Abilene over the highway to Albany, Texas, and therefore, any load exceeding 7,000 pounds would have to go by railroad by way of Cisco, Texas, making a railroad transportation of 79.3 miles, the rate for which is seventy-two cents per hundred pounds, thereby a shipper loses the difference between 72¢ per hundred pounds and 53¢ per hundred pounds, in addition to the delay necessarily incurred thru shipment over the longer railroad route. That such is an example and illustration of the effect of House Bill 336 upon the transportation of commodities; that it serves merely to divery the traffic from commercial motor vehicles to railroad companies.

E. C. GRANT, Vice-President, Western States Grocery Company, Inc., stated that Western States Grocery Company, Inc., is engaged in the wholesale grocery business; that the company transports to various retail dealers over northwest Texas commodities and supplies sold such dealers by said company; that in said business it uses nine trucks and twelve semi-trailers, which are designed and [fol. 302] licensed to carry loads in excess of 7,000 pounds, and that such equipment represents an investment of approximately $41,000.00.

That trucks carrying net loads of approximately 12,000 pounds are absolutely essential to the wholesale distribution of food stuffs, and that such distribution thereof cannot be efficiently and economically handled by railroad or any other existing facilities.

That the cost of transportation is one of the chief factors determining the retail price of commodities; that the enforcement of House Bill 336 will materially increase the cost of groceries to the retail trade, due to the increased cost of transportation, such as said company being required to transport small loads not exceeding 7,000 pounds in their trucks instead of carrying loads of from 12,000 to

14,000 pounds, the capacity of the company's present equipment, which is now being operated in compliance with the valid laws of the State of Texas.

A. S. WAGNER, President, Southern Transportation Company, Inc., stated that said company is engaged in operating a motor freight line from Dallas, Texas, via Tyler, Longview and Marshall, Texas, to Shreveport, La., maintaining its principal place of business in Dallas, Dallas County, Texas, with branch offices and agents in Shreve-
[fol. 303] port, La. That it does both interstate and intrastate business, transporting merchandise by truck over the highways from Dallas and other points in Texas to Shreveport, La., and intermediate points.

That said company has been engaged in the business of operating a motor freight line for the past several years; that the investment of the company in truck-tractors, semi-trailers and trailers is the sum of $34,000, which are used in the operation of said motor freight line. That many of said pieces of equipment cannot be operated at a profit under the restrictions of House Bill 336, for the reason that said equipment is designed and constructed to carry a pay load in excess of 7,000 pounds and cannot be profitably operated with a net pay load of 7,000 pounds.

That said company operates several combinations of vehicles in excess of 45 feet in length in interstate commerce, by transporting freight from Dallas, Texas, to Shreveport, La., and said combinations of vehicles now comply with all valid laws of the State of Texas, but cannot be operated under the restrictions imposed by the said law aforesaid.

That said company cannot engage in said business with profit to itself if the restrictions as to length and weight of House Bill 336 are enforced.

[fol. 304] JOHN W. LUTON, Secretary of the Bull-Stewart Equipment Company, Inc., stated that it is engaged in the business of transporting Ford automobiles over the highways of the State of Texas, under contract; that to comply

with the terms and provisions of said contract, said company has specially constructed and built motor vehicles, specially designed to transport said automobiles over the highways with safety; that said vehicles consist of a truck-tractor and specially designed trailer attached thereto in combination, which combinations range in length from 55 to 65 feet; that said combination of vehicles is so constructed as to permit transportation of four Ford automobiles on one load; that the length of said combination must be at least 55 feet in order to transport four Ford- thereon.

That the operations of said company extend thruout the state. That under the contract aforesaid, it is necessary that said company carry and transport at least four Ford cars on each of its trips in order that said transporting may be done at a profit; that if less than four cars are transported, such must be done at a loss.

That said vehicles have been constructed at a cost to said company of approximately $58,000.00; that said specially designed and constructed equipment cannot be used in any other transportation business. That said company is engaged in the above described business solely and its property will be virtually confiscated without compensa-
[fol. 305] tion if the provisions of House Bill 336 are enforced.

A. J. HARRELL, President, Yellowcab Transit Company, Inc., stated that said company is engaged in operating a commercial motor freight line in the States of Kansas, Oklahoma and Texas, transporting merchandise and freight of all kind and character from points in Oklahoma and Kansas to points in Texas, transporting interstate shipments only, and in connection therewith maintains an office in Dallas, Texas, and an agent in Houston, Texas.

That said company in its business uses commercial motor vehicles, truck-tractors, trailers and semi-trailers, all of which conform to the terms and provisions of the valid laws of the State of Texas now in force, and all of which are licensed under the laws of the State of Texas as vehicles authorized to use the highways in the State of Texas in the transportation of goods, wares and merchandise carried by said company for the public in the conduct of its business aforesaid.

That said company has twelve vehicles as defined by the act of the legislature of Texas, referred to in the bill of complaint filed by the complainant herein, and that it maintains a large warehouse and terminal and offices in Dallas, Texas, as well as agents in numerous of the intermediate [fol. 306] points along the route served by its transportation line; that the gross business in Texas of said company amounts to the sum of approximately $100,000.00 per year; that in said business it employs a large force of drivers, mechanics, auditors, bookkeepers and miscellaneous clerical help and in this business it has an investment in the State of Texas of $61,000.00, substantially all of which is placed in jeopardy by reason of the matters and things set out in the legislative act specifically plead in the bill of complaint herein.

That said company on February 1, 1931, paid to the State of Texas, its annual license fees, aggregating the sum of $2,864.30, and in consideration of which was granted a license by the State of Texas to use its equipment aforesaid in the conduct of its business during the current year ending January 31, 1932; and in the conduct of said business, it is paying to the State of Texas as gasoline tax approximately the sum of $200.00 per month, which tax is used for the construction and maintenance of said highways of the State of Texas over which this company operates its vehicles in the conduct of its aforesaid business.

That under the terms and provisions of House Bill 336, all of the motor vehicles owned by this company will be virtually confiscated, as their use over the highways of the State of Texas is prohibited by the terms and provisions of said Act, and that this company, and other persons simi- [fol. 307] larly situated, will suffer irreparable damage.

K. V. Lipscomb, Vice-President, Tennessee Dairies, Inc., stated that said company is engaged in the business of gathering and marketing daily dairy products, and in connection with the operation of its business operates a fluid distributing business within the City of Dallas, Dallas County, Texas, and it purchases from over 400 farmer producers located in the counties of Dallas, Tarrant, Parker, Wise and Collin, paying for this milk a price based

on the Dallas platform price, less the cost of handling and transportation.

In connection with its business, it operates concentrating and cooling stations in the towns of Weatherford, Azle, Bridgeport, Decatur, Eulass and Farmersville, Texas. The average daily deliveries to the larger of these stations is as follows: Weatherford, 8,500 lbs; Azle, 10,000 lbs; Decatur, 20,000 lbs; Eulass, 22,000 lbs.

In the operation of its business, the producers of milk surrounding these stations make their deliveries twice daily to the receiving plants where the milk is cooled and discharged into large glass lined thermos tanks, these tanks varying in capacity from 1,000 to 1575 gallons each. With one exception, these tanks are mounted on semi-trailers, operated in connection with short wheel base tractor units.

[fol. 308] That milk from Weatherford station at the present time is hauled in a thermos tank with a capacity of 1250 gallons, mounted on a Mack, chain drive truck. The licensed carrying capacity of this unit is 9,000 pounds. This truck makes regular daily trips from Weatherford, Parker County, Texas, to Dallas, Dallas County, Texas, using State Highway No. 1, the round trip distance being 140 miles.

At Azle, seventeen miles northwest of Fort Worth, it has a 1575 gallon thermos tank mounted on a semi-combination trailer-tractor unit. This combination is now hauling a little over 9,000 pounds, making one daily trip, using a local road, Azle to Fort Worth, and then from Fort Worth to Dalas, over Highway No. 1, round trip about 100 miles.

At Eulass, 22 miles west of Dallas, it has a 1575 gallon thermos tank, mounted on a combination, semi-trailer-tractor unit, and moves approximately 21,500 pounds of milk daily from this station, making two trips, the round trip being approximately 45 miles.

At Decatur is has a 1,000 gallon tank, mounted on a semi-trailer-tractor unit, and normally moves from 8500 to 12,500 pounds of milk daily during winter season over Highway No. 2 from Decatur to Fort Worth and Highway No. 1 from Fort Worth to Dallas, the round trip being 146 miles.

That all of said equipment was specially built and de-
[fol. 309] signed to handle considerably in excess of 7,000 pounds load limit and represents a total original investment in the four pieces of equipment above mentioned of $29,665.00.

That to comply with the terms and provisions of House Bill 336 it will practically double the hauling cost to this company. That it is possible to move 12,000 to 13,000 pounds in peoperly designed equipment at practically the same cost that 7,000 pounds can be moved for; that the increased cost of moving this milk will be in the neighborhood of 20¢ per hundred pounds, and that such increase in the cost of transportation will be reflected in a lower purchase price to the outlying station producers.

That the heavy equipment above described is properly designed, properly tired and operated under speed limits of 25 miles per hour, all in accord with the present laws of the State of Texas now in force, and that such equipment does not in any manner or way damage the highways over which it moves or unnecessarily imperil the traveling public.

On this equipment aforesaid, it has paid a license fee to the State of Texas, aggregating for the current year the sum of $2889.57, which includes licenses upon other commercial truck equipment operated by it, and that each year it is paying to the State of Texas as gasoline tax approximately $4320.00, such tax being used for the construction and maintenance of state highways.

[fol. 310] GAYLE PARK, Vice-President, Jno. B. Barbour Trucking Company, Inc., stated said company is the owner of 23 trucks and trailers, all trailers being two-wheel trailers, commonly known as Highway and Spencer Trailers, each weighing about 2,000 pounds, except two which weigh about 3,000 pounds, said trucks being International Trucks, twenty weighing about 10,000 pounds and three about 16,000 pounds each.

That said trucks and trailers are operated by said company in combinations consisting of one truck and trailer, which in construction and operation now comply with all

the valid laws and regulations of the State of Texas now in force.

That the principal business carried on by it is the transportation of oil field equipment and farm machinery and the ordinary pay load carried on a combination truck and trailer is from 14,000 to 20,000 pounds, except on the three heavy trucks above mentioned the usual load is about 12,500 pounds on the truck and 12,500 on the trailer.

That this equipment represents an investment of approximately $75,000.00, not including investment of approximately $21,000.00 in field cars, tools and machinery and buildings incident to said business.

That the gross returns from said business exceeds the sum of $75,000.00 annually. About onehalf of said business consists of interstate business, the transportation of oil field equipment and farm machinery, and intervenor has [fol. 311] during the past year developed a large and lucrative trucking business as a contract carrier and not as a common carrier.

That the aforesaid combinations of vehicles now used by said company in its business exceed in length 45 feet but are less than 55 feet, and in more than 95% of its business, it carries and transports net loads exceeding 7,000 pounds. That substantially one-half of the amount invested in the equipment aforesaid will be lost and destroyed if the restrictions as to length embodied in House Bill 336 are enforced against said company, and said business as a whole will be virtually destroyed and said property taken without compensation or due process of law if the weight limitations prescribed by said Act are enforced.

That said company has contracts extending beyond January 1, 1932, under which, in order to fulfill same at a profit, as figured by said company at the time it took the same, it will be necessary to carry a pay load in excess of 7,000 pounds, and such contract right will be virtually destroyed by the enforcement of the weight restrictions imposed by this law.

That said company is now being prevented from making other and additional contracts for the transportation of commodities for various oil companies because of the fact that the Respondents are threatening to and will enforce the weight limitations prescribed by said Act on January [fol. 312] 1, 1932, unless restrained from so doing. That

the customers of said company will not contract with it for any contract hauling beyond January 1, 1932, as they otherwise would do, because of the fear on the part of said customers that the company cannot use its said motor vehicles for transportation of commodities where the weight thereof exceeds the limitation of 7,000 pounds prescribed by said law.

That the business of said company by reason of the aforesaid matters is being irreparably injured and damaged. That the combinations of vehicles exceeding 45 feet in length used by said company in the conduct of its business, both interstate and intrastate, do not damage the highways of the State of Texas or impair the safety of the public in the use of said highways any more or — any different manner and way than is true where implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highway, are permitted to use the highways of Texas without limitations as to size of vehicle.

That on or about February 1, 1931, said company paid to the State of Texas the annual highway license fees prescribed by law and in consideration therefor was granted a license by the State of Texas to use its equipment aforesaid in the conduct of its business for and during the current year ending January 31, 1932.

[fol. 313] That under the length and weight restrictions provided by said Act, said company cannot operate its business profitably; that it is only by carrying aload of at least 14,000 pounds can said company make any profit on hauls in excess of 50 miles, it being impossible to profitably transport and carry loads as small as 7,000 pounds for any considerable distance.

That the net load of a commercial motor vehicle and trailer or combination thereof has no relation to the damage, if any, that such vehicle or combination may do the highways of the State, as such damage is determined by the gross weight of vehicles and load and not by the net load carried upon any vehicle.

W. O. Beeman, Secretary-Treasurer and General Manager, Wichita Falls Motor Company, stated that said com-

pany is now and has been for more than twenty years engaged in the business of manufacturing and distributing trucks, trailers, truck-tractors and semi-trailers as defined by the provisions of House Bill No. 336.

That in said business it has invested approximately the sum of $591,848.04, and over a period of twenty years has developed a business of the value of at least the sum of $100,000.00 over and above the actual physical inventory of [fol. 314] *of* property above mentioned. That the business of said company and the assets and property invested therein will be virtually destroyed, and if not wholly destroyed, then very substantially depreciated by the enforcement of the provisions of said Act, and will result in irreparable damage and injury to said company.

That it has on hand now an inventory consisting in the main of motors, axles, springs, radiators, steering gears, transmissions, wheels, and various other parts having a present value of $441,848.04, which has been bought and paid for by it for the purpose of manufacturing commercial motor vehicles, truck-tractors, semi-trailers and/or trailers, the use of which as a practical matter has been or will be virtually prohibited on the highways of the State of Texas by the enforcement of the weight and dimension provisions of the aforesaid Act.

That all of the trucks which it has been manufacturing and selling in the State of Texas, and for the construction of which it has purchased the aforesaid inventory, are built and designed for the purpose of carrying more than 7,000 pounds net load, and said trucks and/or truck-tractors with semi-trailers or trailers are not commercially profitable and cannot be made so if the limitations as to weight or dimensions, particularly the former, are enforced.

That said vehicles are so constructed and built as that [fol. 315] in their operation over the highways of the State of Texas they can conform to the present valid laws of the State of Texas and will not, when operated over the highways of this State cause any more injury or damage to such highways than will be caused by the operation over said highways of other vehicles excepted from the provisions of said law.

That the customers of said company will not buy the motor vehicles manufactured by it because of the con-

tinued threat and the imminent danger of the enforcement of the weight and dimension restrictions of said bill.

That substantially all of said company's business is done in the State of Texas, and in the course of the conduct of said business, it has heretofore sold trucks and taken in part payment therefor notes aggregating approximately the sum of $200,000.00, which notes are secured by chattel mortgage liens upon vehicles which cannot, under the weight and dimension restrictions of said Act, be operated on the highways of the State of Texas, thereby virtually destroying the security for said notes, as the value of such security depends upon the right of the operators of said vehicles to use the same upon the highways of the State of Texas, and none of said vehicles can be profitably operated, and practically all cannot be operated at all under the weight and dimension restrictions of said Act.

A large portion of the above mentioned notes have been [fol. 316] sold to various banks and finance companies upon the endorsement of this company, and said banks and finance companies are now refusing to purchase any other paper offered for sale by this company upon commercial motor vehicles sold by it for fear that the security of said paper will be destroyed by reason of the enforcement before the maturity of said notes the weight restrictions to become operative under the provisions of said Bill on January 1, 1932.

That the business of said company is irreparably injured by reason of the threatened enforcement of the weight and dimension restrictions of said Act.

That the vehicles manufactured and sold by said company are so constructed and designed as that they can be operated with safety to the highway and the traveling public.

G. F. Sproul, doing business under the name of Empire Transportation Company, stated: That he is the owner of three trucks and three trailers; that each of said trucks and trailers are capable of carrying at least 10,000 pounds each; that said trucks and trailers are operated in combinations of one truck and trailer, which now comply, in their manner of construction and use with all the valid laws and regulations of the State of Texas now in force and effect.

That his principal business is that of a contract carrier, [fol. 317] and that on a combination truck and trailer operated by him he is able to carry a load weighing about 12,000 pounds upon the truck and about 12,000 pounds on the trailer.

That the equipment aforesaid represents an investment of approximately $18,000.00. That he now has contracts with various oil companies for the transportation of gasoline over the highways of the State of Texas which will not expire until after January 1, 1932, and which contracts as already made extend into the year 1932.

That the aforesaid combinations of vehicles now used by him in his business exceed in length 45 feet but are less than 55 feet, and that in more than 95% of his business, he carries and transports net loads exceeding 7,000 pounds.

That substantially one-half of the amount invested by him in the equipment aforesaid will be lost and destroyed if the restrictions as to length embodied in House Bill 336 are enforced against him; that his business as a whole will be virtually destroyed and his property confiscated if the weight limitations prescribed by said Act are enforced.

That he has contracts extending beyond January 1, 1932, under which, in order to fulfill same at a profit, as figured by him at the time he took the same, which will be virtually destroyed by the enforcement of the weight restrictions imposed by this law, and he is now being prevented from making other and additional contracts for the trans- [fol. 318] portation of commodities for various oil companies because of the fact that said respondents are threatening to and will enforce the weight limitations prescribed by said Act on January 1, 1932, unless restrained by so doing.

That by reason of threats to enforce the weight provisions of said Act, intervenor cannot proceed with the ordinary conduct of his business because his customers fear that from and after January 1, 1932, he will be unable to transport their goods, wares and merchandise on account of the weight restrictions imposed by said Act and will not contract with him for contract hauling beyond January 1, 1932, as they otherwise would do, because of the fear on the part of said customers that he cannot use his motor vehicles for transportation of commodities where the weight thereof exceeds the limitation of 7,000 pounds.

That the enforcement of the provisions as to weight and length of his motor vehicles will irreparably injure and damage his business.

That the combination of vehicles exceeding 45 feet used by him in the conduct of his transportation business, with intra and interstate, do not damage the highways of the State of Texas or impair the safety of the public in the use of said highways any more or in any different manner and way than is true where implements of husbandry, including machinery used solely for the purpose of drilling [fol. 319] water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highway.

That on or about February 1, 1931, he paid to the State of Texas the annual highway license fees prescribed by law, and in consideration therefor was granted a license by the State of Texas to use his equipment aforesaid in the conduct of his business for and during the current year ending January 31, 1932.

That the enforcement of the provisions as to length of commercial motor vehicles and combinations thereof owned by him prevents the transportation by truck of goods, wares and merchandise from the oil fields in and adjacent to Wichita Falls, Texas, to the various oil fields in the State of Oklahoma, because the provisions of this Act restricting combinations of vehicles to 45 feet and net load to 7,000 pounds, no commercial motor vehicle or combination thereof can profitably operate; that only by carrying a load of at least 14,000 pounds can he make any profit on hauls in excess of 50 miles' distance, it being impossible to profitably transport and carry loads as small as 7,000 pounds for any considerable distance.

That the net load of a commercial motor vehicle and trailer or combination thereof has no relation to the damage, if any, that such vehicle or combination may do the highways of the State, as such damage is determined by the gross weight [fol. 320] of vehicles and load and not by the net load carried upon any vehicle.

W. T. STEVENS, of Houston, Harris County, Texas, stated: That he is engaged in the business of transporting uncom-

pressed cotton, in trucks belonging to him, for hire, over the highways of the State of Texas.

That during the year 1930 he entered into an agreement with Mager Cleaver & Company, with headquarters in Dallas, Dallas County, Texas, under the terms of which he was to transport over the highways of this State all uncompressed cotton owned by said Mager Cleaver & Company and destined for Houston, Harris County, Texas; that pursuant to said agreement he transported approximately 60,000 bales of cotton over the highways of the State of Texas during the year 1930, all of which was uncompressed.

In order to properly and efficiently transport said cotton under the agreement reached, he acquired approximately 40 trucks equipped with semi-trailers and of one and one-half to three tons capacity, representing an investment of about $50,000.00.

That said agreement heretofore mentioned was renewed for the year 1931, with approximately the same terms and provisions. That at this time there are several hundred [fol. 321] bales of cotton ready to be transported from various points in the State of Texas to Houston, Harris County, Texas, and that he is bound and obligated under his said agreement to make proper and immediate transportation of said cotton from said Points to Houston, Harris County, Texas. That daily said Mager Cleaver & Company are acquiring additional bales of uncompressed cotton to be transported by intervenor from various points in the State of Texas to Houston, Harris County, Texas; that the present outlook indicates that there will be approximately as many bales of uncompressed cotton to be transported over the highways of the State by him for said Mager Cleaver & Company this year as was transported during the year 1930.

That he transported twenty to twenty three bales per load; that the rates for said transportation service agreed upon between he and Mager Cleaver & Company were substantially less than the rates charged by railroad companies for said transportation service.

That during the year 1930 he earned and received the approximate sum of $5,000.00 for said transportation service rendered to Mager Cleaver & Company under said agreement, said sum representing a net profit made after oper-

ating expenses were paid and due allowance had been made for depreciation of said equipment so used. That he will derive under the terms of said contract for the year 1931 approximately the same amount of $5,000.00 net profit, if [fol. 322] permitted to continue said service.

That the aforesaid contract is now in full force and effect and is a valid and subsisting agreement, and that said intervenor is at this time operating his said forty trucks in strict compliance with all the laws of the State of Texas relating to the operation of trucks on the highways of the State of Texas; that said trucks are duly and legally licensed, and were at all times, in all matters, respects and particulars operated over the highways of the State of Texas in absolute conformity with all the laws of the State of Texas appertaining to the operation of such character of trucks over the highways.

That the customary and usual bale of uncompressed cotton is 36 cubic feet in size and that a bale of uncompressed cotton is always of a greater size than 30 cubic feet; that the average and usual bale of compressed cotton, compressed to a standard density, is 23 cubic feet in size, and that every bale of cotton of standard density compression is less than 30 cubic feet in size. That the average and usual bale of cotton, compressed or uncompressed, weighs 500 pounds or more, tho there is some cotton ginned and bound in bales of less than 500 pounds; that only approximately one-half of one per cent of the 60,000 bales transported by him last year weighed less than 500 pounds.

That by reason of the terms and provisions of said Act, [fol. 323] the transportation of uncompress- cotton becomes an economic impossibility, in that he could not operate his trucks in the conduct of this transportation business at the rate now charged when hauling 13 and rarely 14 of said bales per load. That he cannot conduct the transportation business he now conducts over the highways of Texas on an economically sound basis by charging the same rates now charged by railway companies for the same service, under the weight restrictions of said Act.

That enforcement of the provisions above referred to of said Act will destroy his said business of transporting uncompressed cotton for hire over the highways of the State, in that the transportation thereof in such restricted loads will cause him to operate said business at a loss.

That he knows of no commodity generally and commonly transported over the highways of the State of Texas fitting and conforming to the commodity "contained, boxed or bound in any container, box or binding, containing more than 30 cubic feet and weighing more than 500 pounds" other than uncompressed bales of cotton.

That the enforcement of said Act is tantamount to forcing him to abandon and forsake the lawful business he has heretofore been engaged in; that it will result in a great financial loss to him, in that the equipment heretofore used by him in the pursuit of the business of transporting uncom- [fol. 324] pressed cotton over the highways of the State of Texas will be rendered useless to him, and that in attempting to sell his said equipment, the same will have to be offered at a great sacrifice and material loss; that the enforcement of said Act will not only bring about a complete destruction of the business he is now engaged in, but will operate destructively to the large investment he made in trucks and equipment used in said business.

Under the stipulation with reference to the use of affidavits, the following witnesses testified by affidavit on behalf of complainant and interveners, there being no cross-examination, to-wit: J. C. Carrington, E. C. Grant, J. T. Cox, John B. Barbour, L. G. Phares, W. O. Beeman, Leslie Stringer, Ed Sproles, Russell H. Hohman, J. A. Nickell, F. A. Markland, A. J. Harrell, A. R. Losh, and J. M. Isbell:

J. C. Carrington stated that for about 13 years he worked in the Traffic and Claim Departments of the G. C. & S. F. Railroad Company; that subsequently for about 4 years he has been and is now connected with the Texas Bus Owners' Association as Secretary-Manager thereof; and that for about a year and half he was with the Texas Truck Owners' Service Bureau, Inc., as Secretary-Manager thereof.

That his experience and work has been such as to familiarize himself with the methods of transportation prevailing [fol. 325] generally throughout Texas; that he is familiar in a general way with the tariffs prevailing for railroads and truck operators; and that since he has been connected with the Bus Owners' Association and the Truck Owners'

Service Bureau, Inc., such associations have made studies and done considerable research work bearing on the safety operations of motor vehicles over the highways of Texas, and particularly with reference to the wear and tear upon said highways of vehicles of different sizes, weights, and types; and that he is familiar in a general way with the results of these investigations, and is further familiar with the usual methods of transportation used in the distribution and marketing of the various agricultural commodities of the State of Texas.

That the business of agriculture in the State of Texas, including dairying and stock-raising, is one of the largest businesses in Texas; that cotton, wheat, fruits, vegetables, and practically all of the staple agricultural commodities are grown in Texas on a large scale, and that the livestock business in Texas is one of the major industries of the State.

That in moving these various commodities to market there is a steady flow of traffic throughout the entire year over the State of Texas, moving these various farm and ranch commodities to market, and that a very large percentage of all of the traffic moving over the State highways [fol. 326] of Texas is that which originates in the movement from farm and ranch to the various collecting and distribution centers. For example, throughout the Panhandle area the tremendous wheat crops grown there are moved largely by truck to the elevators in the various towns which are located and scattered over the Panhandle area. A major portion of this crop is carried in trucks owned by farmers so that such trucks come within the excepted provisions of Section 3 of H. B. No. 336, which provides that the limitations as to size of vehicles stated in said section shall not apply to implements of husbandry, which has been construed to include trucks used in the transportation of agricultural commodities where such trucks are a part of the farm, ranch, or dairy farm equipment.

That in his opinion substantially all of said agricultural commodities, including livestock, is moved by either trucks or wagons, and largely by trucks owned by farmers, ranchmen and dairymen carrying their respective commodities to the initial gathering or concentration point.

That all of said vehicles used in transporting the commodities aforesaid are excepted from the length, width and

height provisions of H. B. 336, and that such exception includes a class of vehicles greater numerically than those upon which such restrictions are imposed.

That there is no difference from the standpoint of damage to the highways or danger to the traveling public from [fol. 327] the vehicles which are excepted from the restrictions as to length, width and height than those included within such restrictions as in those instances the highway is subject to the same character of use. In other words, a combination of vehicles used by a ranchman in clearing cattle from a ranch into Amarillo, Texas, for shipment by rail to Fort Worth, Texas, which combination of vehicles may, under the provisions of H. B. 336, be unlimited as to length, is just as objectionable from the standpoint of highway damage or threat of injury to the traveling public as are those trucks which are used to convey gasoline from Amarillo up to the small adjacent towns. Both alike use the highways: yet a discrimination is made in favor of farm trucks as against other kinds of trucks without there existing any damage in the nature of the use of the vehicle.

That there is no relationship whatsoever between the net load carried on a vehicle and highway protection as the determining factors in highway protection of (1) gross weight; (2) road structure; (3) speed; (4) proportion of weight to accidents; and (5) distribution of weight onto the highway through tire spread. In other words, a motor bus weighing 18,000 pounds gross weight when empty is just as damaging to the highway and is just as likely to injure some of the traveling public as is a commercial motor vehicle weighing 4,500 pounds carrying a pay load of 7,000 pounds. Restriction of net load is purely an arbitrary selection without direct relation to highway damage or pos- [fol. 328] sible injury to the traveling public.

J. T. Cox stated that he resides in Fort Worth, Tarrant County, Texas, where he has lived for about two and one-half years, and is Traffic manager for the complainant, Ed Sproles, doing business under the name of Sproles Motor Freight Lines:

That he is familiar with the transportation methods and facilities generally prevailing and now being used through-

out the State of Texas, and particularly in the localities shown on Exhibits 1-x, 2-x, 3-x, 4-x, and 5-x, sent up as original exhibits.

That the aforesaid exhibits truly and correctly represent the railroad and highway facilities in the various localities aforesaid; that the distances thereon shown are substantially correct, and that the mileage and motor truck and railroad rates shown on said exhibits are taken from the official tariffs now on file with the Railroad Commission of the State of Texas, and are true and correct to the best of his knowledge and belief.

That the other data given upon the respective exhibits above mentioned are correct.

That the situations illustrated by the said exhibits are typical of many like situations that will prevail in Texas if the provisions of H. B. 336 are applied and enforced.

[fol. 329] That the restriction of seven thousand pounds to a commercial motor vehicle, or combination thereof, is purely arbitrary in that it has no relation to highway safety either with respect to the traveling public or to the roadbed itself. Under such a provision the direct effect is to require rerouting of traffic as illustrated by the exhibits hereto attached. The use of the highway is not necessarily restricted by such provision, so far as reducing the number of vehicles is concerned, but the effect of such provision is merely to divert the traffic from motor carriers to railroads.

That the effect of restriction which prevents a motor commercial vehicle from carrying a net load of 7,000 pounds is to virtually prevent any competition with railroads in handling lower classes of freight because no profitable pay load of 7,000 pounds or less can be carried under competitive rates such as now prevail and as are now enforced by the Railroad Commission of Texas with respect to common carriers such as complainant.

That the complainant Ed Sproles has been granted several certificates of public convenience and necessity by the Railroad Commission of the State of Texas; that such certificates of public convenience and necessity were acquired long prior to the passage of H. B. No. 336; that complainant has a large investment in motor vehicles aggregating in excess of the sum of $115,000. That such equipment was [fol. 330] bought and was used by complainant long prior to the passage of the aforesaid Act in carrying on the trans-

portation business authorized and required of complainant by the terms and provisions of his certificate of public convenience and necessity issued by the Railroad Commission of the State of Texas; that said complainant under said certificate has built up a profitable business, and that said certificates of public convenience and necessity have a large and substantial value exceeding the sum of $25,000, but with a market value which cannot be determined. By reason of its possession and the business built up thereunder said complainant has acquired and is the owner of a large and profitable business which will be virtually destroyed and the equipment rendered useless and the certificates of public convenience and necessity rendered practically valueless by reason of the application to his said business of the restrictions as to length and weight contained in H. B. No. 336, in that said restrictions if enforced against the complainant will result in complainant being virtually put out of the transportation business as under said restrictions a profitable transportation business cannot be conducted by complainant.

JOHN B. BARBOUR and C. F. JOHNSON, President and Secretary respectively of John B. Barbour Trucking Company, Incorporated, of Iowa Park, Wichita County, Texas, stated that on or about the 21st day of August, 1931, the [fol. 331] said corporation above mentioned contracted with Humble Oil and Refining Company of Houston, Texas, to transport a certain stock of equipment, consisting principally of fittings, valves, nipples, tees, ells and such other sundry stock usually maintained or carried in a well equipped operating warehouse. The said equipment to be moved from warehouse location about 14 miles south of Vernon, Texas, to about 8 miles east of Arp, Texas, approximating a distance of 546 miles round trip. The contract price being $1.00 per 100 pounds.

That truck No. 4, being a 63 Model, 3-ton International truck, license No. 214354, equipped with a Highway Trailer, 3-ton capacity, license No. 20682, driven by Loyd Lowe, licensed driver of John B. Barbour Trucking Company, was loaded with equipment as above mentioned at point of origin and delivered to destination above mentioned,

the said load approximating 14,009 pounds independent of weight of truck and trailer.

That the operating cost of above described haul is to the best of their knowledge and belief shown below:

(A) Gasoline and oils per copies of purchase orders attached hereto and marked Exhibit "A"	$15.92
(B) Wear and tear on rubber equipment based on retail price of tires and tubes costing $561.60 and on an estimated mileage life of 20,000 miles, which would be equivalent to approximately 36 such trips. Cost per trip	17.16
[fol. 332] (C) Labor (Drivers time and expenses) 4 days @ $5.00 per day	20,00
(D) Replacement parts, supplies, based on an annual expenditure of $23,532.64 for the calendar year of 1930 on 26 pieces of operating equipment, per Audit Report, averaging $905.10 per year. Cost per trip above described	10.04
(E) Compensation insurance on drivers time @ $9.80 per $100	1.96
(F) License Fees on truck and trailer at a combined cost of $186.32 on equipment unit	2.04
(G) Fire, theft, public liability and property damage insurance on equipment unit	1.20
(H) Depreciation based on estimated value of equipment of $3,000 @ 33⅓% per annum and for period used on above described trip	12.80
(I) Managerial, clerical, legal and sundry general overhead expense estimated at 10% of proceeds of trip	14.00
(J) Rentals on permanent improvements (Buildings, repair shops, office), valued at $4,000 per year. Pro-rata part applicable to one truck making trip such as above described, as compared with 26 pieces of similar operating equipment	1.72
[fol. 333] Total combined operating expense incidental to a period of 4 days operation as above described	$96.84

The above analysis of operating cost represents expense of trip above described in so far as is possible to ascertain, with no provision made therein for contingencies.

This represents an average trip and shows the average cost to be 69 cents per 100 pounds on a 14,000-pound load. If therefore the Trucking Company is limited to a 7,000-pound load no profit whatsoever remains to the operator. Our experience in the transportation business covering a period of approximately 11 years convinces us that no truck transportation concern can be operated at a profit with a 7,000-pound-net-pay-load restriction.

That the restriction to 7,000-pound net load has no specific relation to highway protection may better be shown by taking into consideration the factors which insure protection to the highways and traveling public, viz: (1) Restrictions controlling gross weight, (2) distribution of the load on the axle, (3) tire equipment, (4) tire spread, (5) springs, (6) speed, (7) miscellaneous safety devices, such as lamps, horns, brakes and the like.

That their experience shows that combinations exceeding 45 feet in length, if properly regulated as to speed and gross weight, with other safety devices are just as safe [fol. 334] as a combination less than 45 feet in length, as they have had fewer accidents with combinations exceedinging 45 feet than with combinations less than 45 feet and that most accidents occur in drving empty trucks at high speed.

That there are motor buses operating on practically all of the State Highways; that such buses when empty vary in weight from 10,000 to 22,500 pounds; and that a bus weighing 20,000 pounds traveling at a lawful speed will do more damage to highways and endanger public more than a truck traveling at lawful speed—where the truck has a gross weight of not exceeding 18,000 pounds to the axle and is properly tired.

W. Q. Beeman stated that he has been engaged in the business of manufacturing and selling trucks for the past 17 years and during said time has become familiar in detail with all phases of the truck business, including construction, sale, operation, and transportation problems, as well as the effect upon the highways of motor vehicle transportation.

That so far as highway protection is concerned there is no relationship whatsoever between the net load carried

upon a motor vehicle and the damage which said vehicle may or may not do to the highway, as the factors that enter into a determination of the question of whether or not a particular motor vehicle does damage to the highway is the relationship that exists between the gross weight of the [fol. 335] vehicle and load and the per inch tire spread on the highway. No highway of Texas will be damaged by any truck having a gross weight of 22,000 pounds where such weight is properly distributed on the tires, and a reasonable distribution of such weight is from six to eight hundred pounds per inch width of tire on the surface of the highway. No damage to public highways is done by a combination of vehicles where the combination does not exceed 65 feet in length and 96 inches in width and 14 feet in height, where the gross weight of such combination does not exceed 16,000 pounds per axle and the weight is so proportioned as not to exceed 600 to 800 pounds per inch of tire spread on the highway. The factor of safety given by the United States Automobile Chamber of Commerce and recognized by the United States Bureau of Public Roads is 850 pounds to the inch of tire spread and 18,000 pounds per axle. Careful experiments with which he is familiar have demonstrated that these limitations as to weight are such as to insure absolute highway protection without danger or menace to the traveling public, where other safety devices such as horns, brakes, lights, and speed limits are required.

That combinations of vehicles such as those owned by John B. Barbour Trucking Company, Inc., and Ed Sproles, operated within the present prescribed speed limits and conforming to the other safety factors now in force, do not in any way injure or damage the highways any more than [fol. 336] the usual wear and tear which is incident to any kind of transportation over the highway. For example, a Ford car with five passengers operating over the public highway at a speed of 45 miles per hour, starting more rapidly and stopping quicker than such vehicles as those above described, will actually do more damage to the public highways of the State than vehicles such as those above mentioned. The reason for this is that the wear and tear upon the highway is determined by two factors, first, the

pounding action of the tire as the vehicle passes over the irregularities on the surface of the highway, and, second, by the pushing action of the tires against the surface of the highway. With respect to the first factor, the weight and speed of the vehicle and the width of the tires are the determining factors, and, as to the second factor, the power of the motor and the width of the tires are the determining factors.

That a fast moving passenger car with its narrow tires is more detrimental to the highway than heavy slow-moving trucks within the dimension and gross weight limitations prescribed by the present statutes of Texas. For example, Cadillac, Packard, and Lincoln cars all weigh around 4,000 to 4,500 pounds each, some models being even heavier. These customarily travel our highways at about 45 miles per hour and at speeds much greater than this. They are four-wheeled vehicles with four tires, the average width of tires being about 5¾ inches, or a total of 11½ [fol. 337] inches on the two driving wheels. Each of these cars will have an engine of from 100 to 135 horsepower capable of accelerating such a car from a standing stop to 50 miles per hour in less than 10 seconds. A 5-ton truck, on the other hand, weighing around 10,000 pounds and designed to carry 12,000 pounds or a total of 22,000 pounds, will have four tires on the driving axle, each 10½ inches wide, or a total of 42 inches of tire spread on the axle. It will have a motor of from 80 to 96 horsepower, and some few up to 105 horsepower. With its full load it will not be able to start except very slowly and it will require from 300 to 500 yards and several minutes to be accelerated to 25 miles per hour. The road is worn or damaged by the friction of the driving wheels against the surface of the road and by the pounding of the tires as they run over uneven surfaces. These are the two factors above mentioned. The friction of the tires against the road surface is governed by the power of the motor and tire width and the weight has nothing whatsoever to do with it. This is in accordance with Newton's law which is that all forces are opposing and equal. In other words, the pushing action of the tire against the road is in the opposite direction and exactly equal to the torque exerted by the motor to turn the wheel. This is demonstrated by the fact that the automobile weighing 4,500 pounds and with equal motive power

will start much more quickly and accelerate more rapidly [fol. 338] than the heavily loaded truck. On the other hand, the pounding of the tires on the highway is caused by the weight and is in direct ratio thereto, and the power of the motor or driving friction of the tires has nothing to do with it. In neither event does the net load carried by the vehicle form any standard or gauge for determining wear and tear on the highway. It has no more relation to such highway damage than has the color of the car or the weight of the driver.

With these natural laws in mind, consider the automobile with 125 horse power driving two tires of a total width of 11½ inches. All that enormous power is concentrated upon a relatively small area of road surface, and the destructive action will be high. The truck with 42 inches of tire width and less than 100 horsepower, has the power spread over a relatively large area and the resultant destructive action is practically nil. Likewise as to the pounding action. The automobile moves much more rapidly, the tires are narrow, the pounding is concentrated, the blows are sharper, and by reason of the high speed actually several times as many blows will be struck because the speeding tires will bounce over small obstructions, whereas the truck will simply roll over them by reason of its slower speed, also, the truck tires being much wider, the weight is distributed over more surface, and, while the weight is greater, the pounding action is actually less destructive because of the difference in speed as explained.

[fol. 339] Every truck heretofore manufactured by the Wichita Falls Motor Company is affected by the limitations of this law. There are conservatively 41,314 motor vehicles on the highways of Texas which the weight and dimension restrictions imposed by this Bill affect. A restriction of net load to 7,000 pounds to a truck not exceeding 35 feet in length, or a combination not exceeding 45 feet in length, will practically destroy the value of all the above mentioned equipment. The reason for this is that an analysis of experiences in operating trucks clearly demonstrates that no profitable transportation service can be built up on the highways if limited to a 7,000-pound load. The operating cost per mile would be prohibitive. Small merchants buying in less than car load lots are put at a disadvantage with

chain stores buying in car load lots. The only result of such litigation, restricting weight to 7,000 pounds pay load and length to 35 feet per vehicle and 45 feet per combination is to re-route a large part of present day transportation over railroads. Such is the only effect of the law as a net pay load of 7,000 pounds and the restrictive length limitations above mentioned have no relation to highway safety, but the result effected is to divert the traffic from trucks to railroads, the public paying the increased bill and suffering from want of quick service and the highways and traveling public receiving no benefit by reason of the regulations.

As aptly said by the Minority Report filed in the Legis- [fol. 340] lature of Texas, the same being true from my own knowledge and experience:

"This Bill purports to be a measure designed for the protection of the highways, but is in fact a measure designed to protect rail carriers from competition of the traffic upon the highways. The bill is clearly designed to allow the operation of buses as now conducted by the railroads, but will have the effect of eliminating trucks as a factor of competition with rail carriers, without regard to the question of highway protection."

That at the present time in Texas there are many hundreds of motor buses carrying passengers over the highways of the State of Texas, such motor buses weighing 20,000 pounds and more, and in some instances with load, including passengers and luggage, will weight as much as 26,000 pounds. The net load of 7,000 pounds prescribed for commercial motor vehicles does not apply to motor buses. The latter will do as much damage to the highways of Texas, and are just as much a menace to the traveling public as commercial motor vehicles of similar gross weight. There is no distinction, because under the present law all alike are required to conform to the restrictions regulating gross weight and dimensions.

A horse- or mule-drawn vehicle carrying timber or oil-well machinery, which under the terms of House Bill 336 are permitted to operate upon the highways of Texas with- [fol. 341] out restrictions as to length or pay load, are more damaging to the highways of Texas than commercial motor vehicles which are restricted under this Bill by dimensions and weight requirements. The reason for this is that

wagons, as a rule, have narrow treads, steel tires, and the horses and mules pulling same have iron shoes, and a combination of wagons of any length carrying an unrestricted load can and are hauling oil-field equipment over the highways of Texas, permitted to do so by the provisions of this Bill which prohibits such being done by commercial motor vehicles without conforming to the dimension and weight requirements of this law, and such a distinction has no justification from the standpoint of protecting the highways and traveling public.

A motor truck not exceeding 35 feet in length or a combination of vehicles as defined by House Bill 336 not exceeding 45 feet, cannot profitably operate on the highways of Texas where its pay load is restricted to 7,000 pounds. For example, one of the customers of the Wichita Falls Motor Company who would buy additional trucks manufactured by such Company except for the restrictions as to weight and limitations provided in House Bill 336 is George A. Rheman, of Beaumont, Texas. He hauls gasoline for the Pure Oil Company from Beaumont to Houston in loads of 4,000 gallons each at 1½ cents per gallon, a gallon of gasoline weighing 6.6 pounds, making his net load weight 26,400 pounds, on a truck and trailer of 48 feet 6 inches long and [fol. 342] complying with all present highway laws of the State of Texas. If restricted to 7,000 pounds pay load he could haul only approximately 1,050 gallons of gasoline per load, which, at the price of 1½ cents per gallon, would amount to $15.75 per truck, and the operating expense of his equipment, including the driver and necessary fuel, amounts to at least twice that figure. The Wichita Falls Motor Company built these trucks and sold them to Rheman, taking part cash and notes payable over a period of 15 months. Such notes will not mature in full until long after January 1st, 1932. The trucks used by Rheman do not damage the highway any more than water-well-drilling machinery, implements of husbandry, and other vehicles permitted to operate under the provisions of House Bill 336. However, these restrictions will render such equipment practically valueless, will destroy Rheman's business, and, so far as the Wichita Falls Motor Company is concerned, prevents it from selling to this buyer who wants more of said vehicles in order to carry on with his present contracts, from purchasing any more trucks from the Wichita Falls Motor

Company, because of his fear that their operation will be prevented, and because the Wichita Falls Motor Company cannot finance the sale of such trucks through rediscount of its notes on account of the fact that the Finance Companies will not buy paper on such security in view of the impending threat to enforce the weight restrictions on January 1st, 1932, and the present threat to enforce length retric- [fol. 343] tions which would force Rheman to rebuild a large part of his equipment. All of this equipment of Rheman's manufactured and sold by the Wichita Falls Motor Company, is so designed and constructed with respect to the proportion of weight to tire spread and with respect to dimensions as not in truth and in fact to injure the highways any more than ordinary transportation, or endanger the public any more than motor buses operating under the speed limits fixed by this Bill.

That these illustrations are just a few of hundreds, and probaby thousands of like conditions that exist in the State of Texas. Property, conservatively valued at one hundred fifty million dollars will be virtually confiscated if the weight and length restrictions of this Bill are imposed, and such will be done without any additional protection given to the highways or the traveling public, but only for the purpose of diverting traffic to railroads. His careful study of the transportation problems of Texas, over the period of seventeen years, convinces affiant that such is the practical effect and result of these restrictions.

That there is no difference, so far as injury to the highway or damage to the traveling public is concerned, by permitting water-well-drilling machinery to use the highways unrestricted and forbidding such use to oil-well machinery, as such are used interchangeably in the drilling of both oil [fol. 344] wells and water wells. His company has manufactured and sold a water-well-drilling machine mounted on a truck, the gross weight of which is approximately 22,000 pounds. The length of the combination of vehicles carrying the same is about 55 feet, and under Section 3 (a) of such Bill this vehicle can lawfully operate on the highways if it is on the way to drill a water well, but if it is being used on the highway for the purpose of going to drill an oil well, as it is actually sometimes used, then it becomes prohibited under this Bill. Such a distinction has no relation whatsoever to highway protection, as, regardless of

destination, the vehicle does the same amount of damage to the highway and equally dangerous, if any danger there be, to the traveling public.

That farm tractors having a width of 9 feet are permissible under the terms of this Bill, and that such a tractor is in all respects, so far as highway safety is concerned, on the same plane with truck tractors which are restricted by this law to 96 inches in width.

Farm machinery, including combines, tractors, trucks and combinations thereof can operate on the highway, without limitation as to size, under Section 3 of this bill, and such is just as injurious and more so to the highway and traveling public as commercial motor vehicles prescribed by the present Texas statutes.

That there is no difference from the standpoint of high- [fol. 345] way protection or safety to the traveling public in commercial motor vehicles carrying loads to railroad receiving stations than in those which are operated in competition to railroads. If safety factors control, then there is no reason for making any distinction on account of the destination of a load, as load destination is not a factor to be considered in regulating highway transportation from the standpoint of acquiring protection to the highways and safety to the traveling public.

LESLIE STRINGER stated that he is 34 years of age, and resides in Wichita Falls, Wichita County, Texas, and is engaged on quite an extensive scale in the farming business on the South Plains territory in and around Floydada, Floyd County, Texas.

That he with his associates cultivate about 6,000 acres of land, largely planted in wheat.

That he is familiar with the customs and practices prevailing through the South Plains and Panhandle area in cultivating land and in harvesting wheat in that section.

That in cultivating said land on large scale production, such as is quite common in that territory, there are used farm tractors and plows and that in harvesting the wheat crop combines and tractors are used and the wheat is hauled to market in trucks.

That on his place what is known as a 15-30 International farm tractor is used for plowing the land, as well as for [fol. 346] pulling the combine. This farm tractor weighs approximately 7,000 pounds, and in that area there are farm tractors much larger than this that are used and the weight thereof will run up as high as ten or twelve thousand pounds. That on his property he uses in the harvesting of wheat an International 16-foot combine, which weighs approximately 10,000 pounds. There are in use in that territory many 20-foot combines which weigh considerably more, such as the Holt Caterpillar combine.

That it is the custom in that section of the country that when a tractor and combine have finished the work upon one farm or tract of land to proceed along the highway to the next farm at which it has a contract, and in the course of the harvesting season will traverse many miles of the public highways of the State of Texas, for example, the land which he is cultivating is scattered over an area of approximately 18 miles and in going from one place to another it is necessary to use the public highways of the State for moving said tractor and combine to each new location where threshing is to be done. In the use of the highways by these agricultural implements there is necessarily placed upon the highway these required implements of husbandry, which with a combination tractor and combine weigh at least 10,000 pounds and up to as high as 25,000 pounds. The width of the wheels upon which these combines rest is approximately from 12 to 18 inches, there being usually four wheels upon which the combine runs; [fol. 347] the two front wheels being smaller in width than the two rear ones and such wheels being made of iron, and on the front wheels there are small circular bands which project out from the wheel forming a kind of road cleat. When coming to a concrete highway the cleats on the front wheels are removed. On the tractors pulling the combines the cleats are either removed when going onto a concrete highway or boards are laid down on the highway for the protection thereof.

That he is familiar with the ordinary commercial motor vehicles used on the highways of Texas and combination of motor vehicles, consisting of a truck tractor or trailer or semi-trailer.

That where the gross weight of a commercial motor vehicle or combination thereof, with trailer and semi-trailer, is proportioned to the tire spread not exceeding six or seven hundred pounds per inch width of tire, such a commercial motor vehicle does not, in affiant's opinion, injure or damage the highway as much as a tractor pulling a combine over a highway.

That he was for many years engaged in the automobile business and has had occasion to observe the effect of motor transportation upon highways, and from his observation, existing over a period of many years, he states that there is no relation between the net load which a commercial motor vehicle carries and the damage which is done to the highway by such commercial motor vehicle, as the deter- [fol. 348] mining factor in highway safety is the proportion of the gross load to the per inch width of tire upon the surface of the highway.

That he has maintained his home practically all of his life in and adjacent to the oil fields of Wichita County, having been born at Electra, Texas, where the oil fields began to develop about 1911, and affiant has had occasion to be familiar with oil-well-drilling machinery. The same kind of machinery is used in the drilling of shallow oil wells as is used in drilling shallow water wells and the kind of machinery that is used in drilling a well of any kind, whether oil or water, depends upon the depth to which the hole is to be drilled. Star drilling machines used for drilling oil wells are also used for drilling water wells.

That so far as protection to the traveling public is concerned, or protection of the highway is concerned, there is no reason for permitting transportation upon the public highways or use of the public highways without restrictions as to dimension of water-well-drilling machinery, and prohibiting the use of the highway, under certain restrictions as to dimensions, of oil-well-drilling machinery, as water-well-drilling machinery may be used for drilling oil wells or vice versa. No more damage is done to highways, nor is the public safety protected by providing limitations as to length, height and width of oil-well-drilling machinery, and at the same time permitting water-well-drilling [fol. 349] machinery to use the public highway without any restrictions as to height, length, or width.

That he is also familiar with the machinery customarily used in highway building and maintenance, and has seen in use on the public highway Caterpillar tractors used in building and/or maintaining highways weighing as much as 25,000 pounds. Such machinery does as much damage, and more so in his opinion, than an ordinary commercial motor truck carrying a 14,000-pound load, where the gross weight is so proportioned to the tire spread as there is not more than 700 pounds' weight to each inch of tire spread over the surface of the highway.

That from his knowledge and experience that a truck carrying a 14,000-pound load to a common carrier receiving point does just as much damage to the highway and imperils the public just as much as a truck carrying a like weight paralleling a railroad; as a matter of fact, there is no basis for fixing one weight for those trucks carrying to a railroad and another weight for those carrying in competition to a railroad so far as protection of the highway and the traveling public is concerned.

That he is familiar with farm tractors and has used many of them in his farm business in West Texas. Such farm tractors are just as damaging in their use upon the highways of Texas in going from one place to another, as are truck tractors, and more so in his opinion, because [fol. 350] all truck tractors with which affiant is familiar have rubber tires, whereas farm tractors do not. So far as protection to the highway is concerned, there is no reason which occurs to him why a farm tractor should be permitted to use the highways of Texas, having a width of 9 feet, and a truck tractor being prohibited therefrom.

Ed Sproles, complainant in Cause No. 476 in Equity, United States District Court for the Southern District of Texas, Houston Division, testified by affidavit, but his affidavit is not set forth, because it is cumulative of the testimony given by said witnesses under the stipulation with reference to the use of verified pleadings heretofore set forth.

The only portion of said testimony not cumulative is that wherein the witness states that his experience has been many years in the transportation business and his

familiarity with the problems of highway damage leads him to concur in the conclusions of Thomas H. MacDonald, Chief of the United States Bureau of Public Roads, as expressed by Mr. MacDonald in a hearing before the Interstate Commerce Commission on Dec. 5th, 1930, in Cause No. 23400, styled Co-ordination of Motor Transportation, to-wit:

"First. We would not build roads much less than 7 inches at the edge and 6 inches in the center, no matter what kind of loads we were going to carry. If we built [fol. 351] thinner surfaces, they would curl up like tissue paper in the rays of the sun. They would warp; the frost heave would destroy them. So, we have a certain minimum thickness of road that it is necessary to build if there were nothing heavier than the ordinary passenger cars and farm trucks to use the road, and the whole question of the heavier buses and heavier trucks therefore begins with a certain minimum thickness of road which is necessary regardless of whether they exist or not.

"Second. We believe that the maximum wheel load should be limited to about 9,000 pounds; gross loads heavier than that would make a 9,000 wheel load. We believe if it is desired to move heavier loads the number of wheels should be increased containing the 9,000 pound concentration, so that if you want to go above that then we should place instead of four wheels, six wheels, or an increasing number of axles, so that we will not obtain more than 18,000 pounds per axle. The roads that we are building today will stand 18,000 pound axle load on pneumatic tires.

"Third. Our tests show that in the application of wheel loads to the road, if the wheel rests as much as 36 to 40 inches apart, if the point of contact of one wheel is 36 inches ahead of the next wheel, there is no overlap of stresses in the road structure. In other words, the road has to carry only the weight of each particular wheel. The stresses do not pile up. Therefore, if we have a load to [fol. 352] move on the roads that would take more than 18,000 pounds on the rear axle, it should be solved by placing two 18,000 pound rear axles with four wheels in place of two wheels. The multiplication of axles or wheels offers the true solution for moving heavier loads on the

roads, and I anticipate that that will be the development in the future.

"Based on the actual utilization of the roads by private automobile and private owners of trucks, to say, so far as the building of our roads are concerned, the main state roads, the relatively small amount of common carrier usage by truck or even the operation of buses upon our highways makes very little difference in the building of the roads. We would be building the roads just as wide and just as thick if there were no common carrier trucks as we are. The relative use is so small in comparison to the private use of the highways.

"The critical factor in determining highway protection is the concentrated wheel load, and that is modified by the way it is distributed to the road surface. Concrete highways can be fatigued or worn out if there are a sufficient number of applications of maximum load applied continuously, perhaps, but in the tests that have been made up to 50,000 continuous applications of loads which stressed the concrete, for example, to 50% of its elastic limit, have not fatigued the material. The material will not fatigue within any practical basis of the application of these heavier loads. [fol. 353] The roads are more destroyed really by climatic and soil conditions than they are by any use that is made of them by the public.

"A common design for a slab concrete in the southern states, we will say is 8-6-8. Now, this type of concrete construction will safely carry a nine thousand pound wheel load, or the 8,000 pound load if applied through the pneumatic tires. In the northern states, because of the climatic conditions, we increase the thickness of the roads to 9-7-9, which is the most commonly used thickness.

"Gross loads of vehicles are important in bridge construction, but are not important in highway designs, as highway safety depends upon actual or wheels loads. If a truck of greater gross load was so balanced by the manufacturer as that it does not have to exceed 18,000 pounds on rear wheels, it would do no more damage to the highway, whether its gross weight was more than 23,000 pounds or less than 23,000 pounds. We do not talk in terms of gross loads as affecting design of highways."

RUSSEL H. HOHMAN stated that he has been engaged in the commercial truck business for a period of twelve years and is familiar with the equipment used by the Yellowcab Transit Company, the intervener herein, and that said equipment is the latest and most up-to-date class of equip-
[fol. 354] ment used anywhere on any highway. It is what is commonly known as tractor, semi-trailer and trailer type; each axle is equipped with Westinghouse Air Brakes, and each connection is full automatic.

That there is no side sway to the semi or full trailer and that each wheel is equipped with dual pneumatic tires of large enough carrying capacity to insure a cushioned pro-
[fol. 355] tection on the highway at the ratio of 800 pounds per square inch of tire in contact with the highway, eliminating a serious impact against the highway.

J. A. NICKELL testified by affidavit in the same language as Russell H. Hohman with the exception that he stated that he has been engaged in the commercial truck business for a period of nineteen years, hence the affidavit is not copied herein.

F. A. MARKLAND stated that he has been in the tire business in various places in the United States for the past eight years and that he is very familiar with the tires used on the equipment of the Yellowcab Transit Company, the intervenor herein, operated in Oklahoma and Texas.

That the equipment operated in Texas by the intervenor is equipped with 40 x 8 pneumatic dual tires, which have a carrying capacity of 4,000 pounds per tire, with four tires per axle.

That equipment as used by the intervenor herein, and equipped with pneumatic tires, as hereinbefore stated, is not damaging to highways, and is recommended by the United States Bureau of Highways.

A. J. HARRELL stated that he is President of the Yellowcab Transit Company, a corporation, and that on or about

the first day of September, 1930, it received a certificate of [fol. 356] public convenience and necessity from the Railway Commission of Texas which authorized said corporation to operate motor trucks for hire over specified highways in the State of Texas.

That following the issuance of said certificate said corporation purchased various trucks and trailers to be used in the operation of this business at the expense of $60,000. Said motor trucks were purchased to comply with the valid laws of the State of Texas and were and are now the latest and most up-to-date equipment to be had.

That said equipment consists of Mack International Units and White Units, which are tractor, semi-trailer and trailer combinations, all equipped with air brakes and full automatic connections, dual pneumatic tires, and weight proportioned on their axles in compliance with the uniform act regulating traffic on highways.

That by reason of the full automatic connections there is no side sway in the trailer or semi-trailer units, and in addition to the automatic connections, are equipped with safety chains.

That all equipment owned and operated by said corporation is new and is inspected each day before it is placed upon the highways.

A. R. Losh stated that he is 47 years of age, born in Butler County, Kansas, 1884, educated in the public schools of Kansas. That he received degrees of Bachelor of Science [fol. 357] in Mechanical Engineering and Civil Engineering from the Kansas State Agricultural College. That he did post-graduate work in Bridge Designing at Massachusetts Institute of Technology, 7 years Assistant State Highway Engineer of Kansas; four years Special Engineer, United States Bureau of Public Roads, Washington, D. C., eight years United States District Engineer in the Southwest Division, including Arkansas, Louisiana, Texas, and Alabama, in charge of Federal Aid Highway Construction. Two years State Highway Engineer of Oklahoma. At present he is City Manager of Oklahoma City, Oklahoma.

That damage to highways from motor vehicles is dependent upon, first, the construction of the roadbed itself; sec-

ond, the vehicle imposed upon the roadway; third, the impact caused by the vehicle moving over the roadway. That, limiting this discussion to high-type, expensive roads, which has resulted in a large loss or substantial cost for repairs, it may be described briefly as follows: The gross load upon the vehicle axle is the first consideration. The distribution of this load to the road surface through the supporting tires of the wheels is the next consideration. The character of the tire, that is, metal, solid rubber, pneumatic, high pressure, bal-oon tires, all have different effects upon the road surface. The distance of the tire, that is, from road surface to wheel rim is an important factor. The character of the springs and their arrangements have a marked effect [fol. 358] upon the pavement reaction.

Of next importance is the distance between the adjacent axles. If the axles are brought nearer together they have the effect of acting as a single load unit. It is obvious that if the distance between the axles is shorter the gross load of the two axles should be correspondingly decreased.

The Highway Department of Oklahoma has established the following restrictions for load limits on state highways. These limits are in excess of those generally authorized by statute, but the State Highway Commission is authorized to issue permits for such oversize vehicles and loads.

Gross load of a single axle, 16,000 pounds; gross load per inch width of tire, 700 pounds; gross load on two axles eight feet apart or more, 32,000 pounds; for axles less than eight feet apart the gross load is determined by the formula 500 times L plus 24,000 pounds. L is the length between axles in feet. Thus for two axles six feet apart the gross load would be six times 500 plus 24,000 pounds, or 27,000 pounds. This limit of 16,000 pounds has been based on the large mileage of the old-type payments in existence in the State

The Engineering Department has authorized loads of 18,500 pounds on a single axle where the vehicle was used exclusively on the pavements built within the last five years. [fol. 359] The pavement built in Oklahoma during the past two years can carry without injury, axle loads of 20,000 pounds, provided the tires of the vehicle, the springs, the shock absorbers, and other apparatus are proper and the speed of the vehicle is held within reason.

The damage to high-type pavements is caused largely by impact.

The recommendations of the Engineering Department on vehicle speed for the older type pavements are as follows:

Axle load	Speed
More than 16,000 pounds	15 miles per hour
" " 16,000 "	18 " " "
" " 14,000 "	20 " " "
" " 10,000 "	30 " " "
" " 8,000 "	35 " " "
" " 6,000 "	45 " " "

The above speeds are authorized for vehicles equipped with pneumatic tires. There is available engineering data from the experimental roads of Pittsburg, California, and on the Bates road test of Illinois, and the Bureau of Public Roads at Arlington, Virginia, which justifies the limitations above given.

The dimensions of vehicles provided by the Oklahoma Highway Department are as follows: Maximum width, 100 inches; maximum length, 65 feet. Special permits have [fol. 360] been issued for vehicles of 104 inches in width and 67 feet in length. Length of vehicle here is length of train combination. The danger to the highways from vehicles of such dimension is that resulting from reckless driving and from having the vehicles coming in contact with structures along the road.

The danger to the traveling public is on account of vehicles passing trains of excessive length. If such trains are moving at a rate of 15 to 20 miles per hour vehicles driving 40 to 50 miles per hour can pass with reasonable safety. When these long trains are permitted to operate at a speed above 20 miles per hour the danger to the traveling public is substantially increased. Length of vehicles or trains should be a controlling factor in their respective speed limitations.

Restriction of length without a governing speed factor is arbitrary and of no benefit to either the roads or traveling public.

The restriction of net load of a vehicle would have no effect on the damage to the road itself, as it is obvious that the gross load is what the axles must carry. It must be obvious that a vehicle weighing 19,000 pounds, traveling with a net load of 7,000 pounds, would have a different ef-

fect from a vehicle of 6,000 pounds with a net load of 7,000 pounds.

In the first case the gross load is 26,000 pounds and in the second 13,000 pounds. If both vehicles are operated [fol. 361] at the same speed with equal tire pressure on the pavement, the larger gross load would do the greater damage, due to greater impact of heavier gross axle load.

The subject of damage to highway surface from motor vehicles is dependent upon so many factors that an arbitrary selection of a limiting net load would appear to be without justification from the standpoint of protecting the highway or the traveling public.

As to load limitations on various types of roads, I would give the following limitations. All such limitations are as to gross axle weight.

Modern pavements 20,000 pounds per axle. Pavement 5 to 10 years old, 16,000 pounds per axle. Semi-rigid surface roads, such as gravel, macadam with asphalt surface when dry and in good condition, 16,000 pounds per axle. During rainy seasons and winter months these limits in Oklahoma are reduced to 12,000 pounds per axle. Light gravel and earth roads in dry and good condition can support loads equal to pavements. When the subgrade contains free moisture the load should be limited to from 3,000 to 6,000 pounds per axle. Such limits have been applied on Oklahoma roads during the past two years.

The axle loads above given are for vehicles with axle spacing of 8 feet or more and with pneumatic tires. On a shorter spacing of axles the formula heretofore given of 500 times L plus 24,000 pounds should be followed.

[fol. 362] That these statements are based on his experience as Highway Engineer for the past 22 years and the practical regulations which have been used in the State of Oklahoma.

J. M. ISBELL stated that he is a civil engineer; that he has been a civil engineer for the past 28 years; that he has been the County Engineer for Wichita County, Texas, since June, 1919, and holds such position at this time; that for the past 28 years he has had experience in the construction and maintenance of public highways in the State

of Texas and other states; that he has had several years experience in the construction of railroad right of ways, steamship wharves, and such similar construction.

That he is familiar with the manner and way in which trucks, motor buses, and automobiles are run upon highways, and is familiar with the effect of motor transportation upon highways.

That the net load of a vehicle has no relation to the damage which is or is not done to the highway by reason of its use upon the highway, as such damage is determined by the gross weight of the vehicle and the manner and way in which said weight is distributed onto the surface of the highway by a proper proportion of weight to tire spread.

That from his knowledge and experience if there are operating upon the highways of Texas many motor buses used for transporting passengers which have a gross [fol. 363] weight, not including load, exceeding 20,000 pounds, and that when loaded with passengers and baggage said motor buses weigh as much as 26,000 pounds gross, then there is no difference in the damage that such a vehicle will do to highways and that done by a commercial motor vehicle carrying freight where the construction of the vehicles and the distribution of the gross weight on the tires are substantially the same.

That the damage done to a highway will be as much and probably more by a farm tractor than by a truck tractor.

That there is no difference in the damage done to the highway by machinery used solely for the purpose of drilling water wells and machinery used for drilling oil wells, and that machinery used for the drilling of water wells is equally as likely, and in his opinion much more likely to cause damage to a highway than commercial motor vehicles having a gross weight of 30,000 pounds where the weight is properly proportioned to tire spread.

That there is just as much damage to the highway and the traveling public in the case of commercial motor vehicles which carry goods, wares, and merchandise to railroad receiving stations, as there is in the case of commercial motor vehicles driven along highways in competition with railroads.

That the highways of Texas are not injured and damaged, nor is there any safety afforded the traveling public

by restricting the net load of commercial motor vehicles [fol. 364] to 7,000 pounds as the gross weight in proportion to tire spread is the determining factor of safety and not net load.

That a vehicle fifty-five feet in length driving to or coming from a common carrier receiving point, carrying a 14,000-pound load, all other conditions being the same, is just as injurious, and more so, to the public highway and the traveling public as a vehicle 35 feet long carrying a 7,000-pound load in competition with railroads.

That he can think of no justification or reason, from the standpoint of public safety and highway protection, for excluding from the operation of a motor vehicle law implements of husbandry, machinery for drilling water wells, and highway-building-and-maintenance machinery and imposing restrictions as to weight and dimensions upon commercial vehicles.

L. G. PHARES stated that he is chief of the Texas State Highway Patrol whose duty it is to enforce H. B. 336 and other laws relating to the highway and that he has been connected with the Highway Department for the past several years; that in the course of his duty he has had occasion to come in contact with and weigh numbers of motor passenger buses that are being operated on the highways in Texas and that at the present time there are approximately 900 passenger motor buses registered in Texas, many of which will weigh from 18,000 to 20,000 pounds when empty.

[fol. 365] L. B. RYON was thereupon called as a witness on behalf of Complainant and Interveners, and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I am professor of Civil Engineering at Rice Institute; I have been engaged in the profession of engineering sixteen years; for two years I was with the Maintenance of Way Department of the Pennsylvania Railroad and the

Baltimore & Ohio Railroad, three summers experience in the Chief Engineer's office of the Wabash Railroad, fourteen years as instructor assistant, professor and professor of civil engineering at Rice Institute, partial time as engineer for the City Planning Commission for Houston for six years. I attended University of Pennsylvania and Lehigh University, receiving a degree from Lehigh University.

I am familiar in a general way with the different types of highway construction in Texas; I am familiar in a general way with the kind of vehicles that use the Texas Highways; I am familiar with the problems which are incident to transportation over highways in Texas in a general way.

The essential factors of highway safety are adequate width, evenness of road bed, alignment, long radius curves, adequate width of bridges, and adequate strength of the bridges and road bed, adequate lighting of vehicles, the [fol. 366] skill of the operators of the motor vehicles, and the condition of the equipment, good condition of the equipment.

The main safety factors when dealing with the question of damages which may be done by a vehicle to a highway is very largely, the gross wheel load applied to the highway. The net load is generally considered by engineers to have no effect on the safety of the highway; in my opinion, the preservation of the highways depends solely on the gross load; so far as preservation depends on load, it depends on the gross load and not on the net load to which the highway is subjected.

The distribution of the load being fixed, it makes no difference what the net load is, so far as the force that is applied to the pavement at any one point, not beyond the strength of the pavement.

The respondents objected to this testimony on the ground that that broad conclusion is even beyond the scope of an expert's testimony and reaches every ultimate question the Court is supposed to determine; which objection was by the Court overruled and respondents excepted.

I am familiar, in a general way, with the usual and customary specifications for concrete pavement in Texas; they are a strength specification based on a 28-day crushing

strength of concrete cylinders with a beam test showing a flexual strength of the concrete often used; the requirements as to thickness of the concrete, rigid concrete pave-
[fol. 367] ment, is a pavement 9-6-9 section, that is 9 inches deep at the edges and 6 inches deep at the crown.

In highways of that character, rigid highways, the net load of a truck or vehicle, the cargo which it carries, in my opinion does not have any reasonable relation to damage that may or may not be done to that highway by vehicles that travel over it, if the highway is able to carry the usual designed load safely.

The highways of Texas of the Bates, 9-6-9 pavement, with the present modern acceptable concrete, is supposed to be able to carry a 9,000-pound gross wheel load applied at the edge of the pavement or at the crown of the pavement safely.

A wheel load is the number of pounds transferred from the axle to the roadway slab under the wheel; if there are two wheels on the real axle it is quite customary to have an 18,000 pound designed load carried by the two wheels, 9,000 pounds under each wheel. That means that that type of road of which we have been speaking, the rigid concrete type of road, is capable and able to carry an 18,000 pound axle load on the two wheels; a greater load where you have a larger number of wheels, a larger number of both front or back wheels; by distributing wheels in tandem a larger axle load may be taken if those greater number of wheels are all on the same axle or a greater load may be distributed over a larger number of axles if they
[fol. 368] are properly spaced.

The usual arrangement used for designing for bridges or roads with which I am familiar and which is used in a large number of states is a 22,000 pound total load, that is 22,000 pounds includes the weight of the truck and the net load carried by the truck; twenty per cent of that 22,000 pound load is carried on the pair of front wheels and 80 per cent of that load is carried on the pair of rear wheels. That makes 17,600 pounds carried, to be exact, on the rear axle and the balance of 4400 pounds carried on the front axle. According to good practice and our present knowledge of concrete, if the concrete is able to carry 350 pounds per square inch in bending stress with safety, the high-

ways of Texas will carry the load distribution I enumerated.

When I stated what could be carried over that type of road with safety, I allowed in that estimate as a factor of safety in two ways; personally, I don't know any truck which with its net load carried on four wheels weighs 23,000 pounds; that is the point I am trying to make, that there is an allowance for the growth in weight of trucks. The second point there is that I presume a factor of safety of two in stipulating the bending strength of 350 pounds per square inch on the concrete so that the presumption there is that you might double the weight of the truck and the highway would be on the point of breaking.

[fol. 369] The factors which enter most largely into the disintegration and damage as an incident of travel on the non-rigid type of roads, which covers gravel, dirt and asphalt, are moisture content of the road and lack of cementing of the materials, lack of adequate cementing of the materials, would be my opinion.

When the non-rigid pavement is dry, in my opinion, the surface friction abraiding the material and then having it blown away is the major sort of wear. When the pavement is wet the weight of the vehicle and the impact of the vehicle and the roughness of the road squeezing the material sideways, causing rutting and holes, in my opinion, are the two chief sources of failure.

If the gross load is fixed, in my opinion, the net weight of the cargo hasn't any reasonable relation to the damage that is done to that type of highway by traffic over it. Speed of the vehicle in respect to damaging the non-rigid type of road has a double effect; when the road is dry, the higher speed creates a higher suction and more readily distributes and picks the material off the surface of the road and distributes it over the surrounding territory; and when the pavement is wet, the higher speed produces greater impact, increasing the wheel load quite markedly and increases the tendency to form ruts and holes.

The more rapidly accelerated passenger automobile has [fol. 370] greater tendency to slide due to the great horsepower of the present passenger automobile, and if the pavement is in a wet condition there is a tendency with high speed to throw the material from the surface of the

road and to abrade the material from the surface of the road when the pavement is dry, which I think would be greater than the abrasion with the greater weight and slow speed of a heavier vehicle.

Stipulation

It is further agreed that all affidavits introduced at the former trial of this case except the affidavits of Geo. A. Knapp, R. C. Wagner, L. G. Phares and E. M. Davis, may be introduced in this case without the presence of such witnesses and the affidavits of the above named witnesses may be introduced if such witnesses are tendered for cross-examination, it being understood that the record will reflect that with respect to affidavit testimony there was no opportunity for cross-examination.

Assuming that I was called upon to design a road in a given terrain to carry a given gross load, say 22,000 pounds, or a given axle load, say 18,000 pounds, or a given wheel load not exceeding 9,000 pounds, so far as damage by weight is concerned, I would have the necessary data upon which to make my design; given the usual class of concrete that is specified in up-to-date highway specification, that is, [fol. 371] assuming a concrete which has a modulus of rupture, that is a technical term by which I mean the computed unit stress at breaking in beam action, given a modulus of rupture of 700 pounds per square inch, I would assume that I had data to make the design of the thickness of the pavement. To build any type of road to carry that kind of load, I would have to have the concrete that is strong enough to carry the load.

Assuming that I was told nothing about these matters except that the road should carry a net load not exceeding 7,000 pounds, I could not design the road; the design is dependent upon the gross load, not on the net load carried by the vehicle; by that I mean that if we assume that 9,000 pounds is the correct load to design for, if 2,000 pounds of that is due to the weight of the vehicle, 7,000 pounds of it may be due to net load, or if the vehicle is heavier and 6,000 pounds of the 9,000 pounds is due to the weight of the vehicle, 3,000 pounds is due to the weight of the load, the effect on the pavement is the same in both cases, because 9,000 pounds is the total load carried; 9,000 pounds in both

cases is the load reaching the pavement from the wheel. In using 9,000 pounds I refer to the wheel load, that is equivalent to an 18,000 pound axle load on a two-wheel axle, and equivalent in the common case to 22,000 on the four-wheel vehicle; I mean a four wheels and tandem on the rear axle; the load on the axle might be increased possibly 50 per cent, [fol. 372] making the axle load in the neighborhood of 27,000 pounds; eighteen thousand pounds, axle, will be carried on each of two axles that are over 40 inches apart.

Net load, in my experience or in my knowledge of highway engineering, has never been used as an element of any engineering formula relating to road construction or scientific discussion of resistance to traffic wear, to my knowledge.

It is difficult to say with respect to which would the more damage occur to the highway, assuming that I was concerned only with the prevention of damage to the highway without regard to any consideration of economic value of highways, dealing with a highway of non-rigid construction, whether more damage would result to the road if a given number of tons were carried in large trucks of say five-ton capacity or in the greater number of trucks of not over one and one-half tons capacity; the lighter trucks would in all probability travel at a higher rate of speed.

Assuming that the mischief aimed at in a law, so far as a weight provision is concerned, is the protection of the highway from damage, and that the law fixes a limit upon the load carried upon the vehicle, rather that the gross load, if we assume that the pavement can carry 9,000 pounds, the heavier vehicle could carry the load safely. The matter of fatigue of material, wearing out of material—like a piece of [fol. 373] tin being bent forward and backward, application of the load a great number of times causes fatigue of the material; the heavier load would tend to cause greater fatigue, but in my opinion, the general concensus of opinion among the engineers of the United States Department of Public Roads is that pavements are more adversely affected by climatic conditions than they are by fatigue.

Assuming that there has been a law passed and that, so far as the weight provision is concerned in that law, that the weight provision is designed to protect the highway from damage, assuming that the law fixes a limit upon the cargo or net load carried upon the vehicle, rather than upon

the gross load, in my opinion that limitation upon the net cargo would have no relation to the mischief which is aimed to be cured.

Cross-examination.

By Mr. Cook:

My experience as a practical engineer has not been limited to the railroad field of activity; I have worked in the engineering Department of the City of Houston and by association with work down there I have observed a great deal of pavement construction work that was going on there; I tested quite a great deal of engineering material, paving material, and I have had no direct practical experi- [fol. 374] ence on highway pavement jobs. In a general way, I have made surveys of the highways of Texas to know of my own knowledge the different types of highway, the nature of the construction and the approximate number of miles of each type. There are right around 8,000 miles of rigid type roads in Texas and approximately 13 or 14 thousand miles topped and gravel and shell. I think there are 21,000 or 22,000 miles in the State Highway System all together; that does not include the county highways, that is State designated roads and Federal designated highways, Federal Aid Highways.

The information I have as to the bridges on these State designated highways, as to their construction and strength, is taken from the State highway standard; they are passed by competent engineering inspection and built under competent engineering supervision according to specifications which we can read.

I know something about the later constructed bridges in Texas; from personal contact with them, I know of the carrying strength of none of them.

I do not approach this problem from the standpoint of the net load; it is not true that approaching it from the standpoint of net load, I may arrive at substantially the same result as if I approached it the other way. Gross load consists of two factors, the weight of the vehicle without the cargo, and then the weight of the cargo added to it. [fol. 375] If you vary the weight of the vehicle, you thereby vary the gross load. I have some information about the vehicles in commercial traffic on the highways of Texas as

to their weight; the vehicles weigh about the same as the load carried. I judge that about the heaviest weight vehicle on the highways of Texas is somewhere around a 7½ or 10 ton vehicle; I mean that in the sense of carrying capacity. I made the point a while ago that a truck weighs about the same as the load that it carries. About the heaviest weighted vehicle now used on the highways of Texas is around fifteen tons; I don't know how many of those there are; the vast number of vehicles on the highways of Texas are far less weight than that. I would say that the average weight of commercial vehicles used on the highways of Texas is somewheres around nine or ten thousand pounds.

If you fix the maximum net load that can be carried on commercial vehicles in Texas, you do fix at least one of the factors entering into gross load, provided you don't change the material from which trucks are built by using more durable material. If you fix a maximum for the load carried, you do thereby fix one of the factors entering into gross load, if, in addition, you fix the distribution of the load.

Assuming that a law is enacted prohibiting carrying on highways of Texas over 7,000 pounds on any given commercial vehicle, I recognize that there would at once set [fol. 376] up a tendency towards economy which would eliminate excess of weight in the vehicle if more expensive and reduce the weight of that vehicle down to a normal size that would be adequate and not unreasonably more than adequate to carry that load, that is not true; I say that because your question is very ambiguous, because it does not specify the distribution of that load and no engineer can tell what the effect of a load is unless he knows how much of it goes to a given axle.

I do think that the fact that the load was reduced would cause a reduction in the weight of the truck to carry the load; if you couldn't carry but 7,000 pounds on the truck, trucks would be made lighter than those now going over the highways, that would be the effect: if the load is properly distributed, you also reduce the gross weight thereby.

There is a differentiation between the effect on a highway of gross load carried on four wheels compared with a gross load carried on six wheels or eight wheels; that is

based on the theory that each wheel carries a certain proportion of that load and from an engineering standpoint I calculated it upon a basis of so much of inch of tire spread.

Assuming that this law provides that no motor vehicle, commercial motor vehicle, truck, tractor, trailer, or semi-trailer having a greater weight than 600 pounds per inch width of tire upon any wheel concentrated upon the surface of the highway shall be operated upon the public highway, [fol. 377] you there have a limitation exactly like I am talking about. I think that a tire load of 600 pounds per inch with the ordinary tire will carry a considerably heavier load than 7,000 pounds net, and I would say that would be efficient if the net load carried had a more direct relation to the gross load carried on that tire. It is true if you combine those two factors and see that they are enforced, you might have a pretty efficient protection against overloading the highways if you had them in correct relation; I don't know whether they have got it or not, I haven't made the computation and don't know.

I have assumed a certain strength and standards in these concrete roads and it is upon that predicate I have given my testimony. I mean to say that those same considerations which I mentioned as related to concrete roads and in light of the hypothesis given would obtain in relation, also, to the topped highways with bituminous topping and the rock or other subsurface, I would say that the same considerations obtain there if you have a two course pavement with a concrete base. If you have a crushed rock or gravel or other substance and then bituminous topping, you would have a very different problem. It is true that the highway system is partly that sort, not the most expensive part.

Of the pavements that were built a number of years ago under inferior knowledge of the strength of concrete, there [fol. 378] have been some crackings, considerable cracking; the highways built in the last ten years under the heavier loading, there has not been any appreciable amount of cracking due to wheel load; a large part of the cracking that you observe on the highways is due to temperature change, moisture change in the concrete which has no direct relation to the wheel loads applied to the pavement. I have seen evidences in the old concrete roads of a substantial amount of cracking; I attribute a very large part of that to tempera-

ture. If the pavement is designed, as I said, it is able to carry the load supposedly without any support from the adjacent members or from the foundation.

With reference to those roads that are part of the highway system of Texas that the State hasn't got just what it thought it was getting in the investment, if the roads are cracked or otherwise in unreasonably bad condition, if they are poor, gross loads would affect them by cracking them again in another place, just continue to break them up. It is true that the heavier load you permit to go over such roads the greater maintenance cost you are going to have.

I have not been over the stretch of concrete road between Sherman and Denison. Assuming as a hypothesis that on the entire number of concrete blocks, 829, there are only about thirty of them remaining uncracked and a stretch within the limits of the City of Sherman prohibited against [fol. 379] truck usage, constructed by the same contractor at about the same time and hasn't got a single block cracked, and assuming the blocks to be approximately thirty feet long and ten feet wide, I would say that it may be due to a difference in the foundation; the locations are not identical; it may be different foundation conditions. You said nothing about the reinforcements, whether one was reinforced and the other wasn't I say it might be due to different foundations.

There is bound to be a wide variation in foundations thruout the state; that is a factor difficult to control, and if you have expensive pavement broken up that way and rapidly deteriorating it is a pretty bad position, needs a remedy; I wouldn't necessarily go about it by limiting the load. I would limit the gross load; it is just a question of how you get at that ultimate result.

Examination by the Court:

It is a fact, taking things as they are, with some of the highways gravel, some concrete, in various states of repair, and leaving out for the moment the proper load that ought to go over them, that the State ought to determine in some way the maximum that ought to go over them; it seems to be the general opinion that something like that should be done. The load which the highways should carry, whether you distribute it by the axle or the wheel or whether you

[fol. 380] take it in gross, the load to be carried over the highway by a particular vehicle is the thing that ought to be determined and fixed reasonably, but the thing that we are most interested in is prevention of cracking of the road and bending stresses in the design of the road. The people who are interested in it, are the people to whom that is entrusted for the design.

Just taking ordinary roads that ordinary people have in the State of their purses as well as their scientific powers, I can find instances where it is true that as they now are that highways are deteriorated and are affected by too heavy loads going over them. If it is properly distributed, you can haul a hundred thousand pounds or ten thousand, it don't make any difference. By properly distributed, I mean on enough wheels, if the hundred thousand pound load were placed on enough wheels. You could get a thousand leg and put him out on the road, you wouldn't hurt the road at all, that is the idea. The thing the legislature ought to figure on is the number of pounds on any one wheel.

Trucks usually have four or six wheels. I say the only way to make a proper fixation of the load is to say so many pounds per wheel or so many pounds per inch tire width. If you do figure so many pounds per tire inch, so many pounds per tire, so many pounds per wheel, you would finally get a total of so many pounds per all the truck. In the end, somebody has got to figure out some simple method [fol. 381] of figuring how much a load is safe to haul on the highway. The way that should be done is to take the number of wheels to the vehicle or the number of inches to the tire and if the pavements are laid properly, bound in the way I have described, the foundation constructed in strict accordance with the specifications, then they ought to stand up to 9,000 pounds per wheel and 18,000 pounds to the axle, so far as the strength is concerned.

Leaving that ideal assumption aside and considering all the different kinds of highways we have, I cannot say that you ought to haul 18,000 or 10,000 or any particular number of pounds over a particular stretch of highway and that damage will or will not result; I cannot tell you as to each particular mile of highway, not as theoretically constructed, but as actually constructed and now existing, how many pounds should be hauled over that stretch; I doubt whether anybody can; in the end, the same thing has to be done by

some reasonable approximation; for some portions of the highway the load is going to be too heavy and for some portions too light.

In talking about these loads that I say they can stand per wheel, that is my opinion in efficient methods of modern highway construction, having plenty of money to put them down, I think highways can reasonably be constructed and some of them have been constructed so that they can stand a load of 9,000 pounds to the wheel or 18,000 pounds to the axle, that is what I say; I said, too, that there was considerably heavier than the probable actual load on trucks in existence today, and if the gravel or shell or dirt pavement are in a dry state that they will probably carry that load just as well as the concrete pavement. But whenever the ground is wet, gravel is wet, or any of these partially permanent pavements are wet, it is a fact that speed and weight together will destroy them, and the heavier it is and the faster it goes the worse it does it, but a large part of that is not destruction of the pavement of a gravel road, you merely mar the surface of it; you can scrape it again and put it back in as good condition as it was. Of course you have to pay for that. Running heavy vehicles rapidly over these roads adds to the cost of maintenance.

[fol. 382]

A truck usually weighs about the same as the net load; some ton and a half trucks carry about five tons, I have seen some. If builders of trucks and haulers of commodities knew they could not haul but 7,000 pounds, they would not take a big Behometh of a truck to haul it, not economically; they would use a lighter truck economically. That would necessarily reduce the total gross load on the road if they reduced the net load, in economic practice it would necessarily result, they would purchase another truck. I would say that I think 7,000 pound net load is unnecessarily low from the standpoint of the ability of the weakest road to carry the load; that would be 1750 pounds on a wheel from a 7,000 pound load if equally distributed; to the 7,000 pound net load I would add 3,000 more for the truck or a little more, say about 11 or 12 thousand pounds would be the gross load and that would distribute over the wheels about 4,000 pounds to the wheel; I think that even a wet non-rigid pavement would carry that safely if the speed were not too high; I have never seen any figures on it but I just estimate that, I have read about it; there was some

[fol. 383]

test performed at Arlington, Virginia, by the Bureau of Public Roads, but I have no personal experience myself from having seen tests made or having made any. I don't think there could be any harm to the roads by reducing the loads that go over them to 12,000 pounds.

Redirect examination.

By Mr. Francis:

I nor anybody else that I know of can figure out any direct relation or reasonable relation between the net cargo and the damage that the vehicle may do the highway, considering only the net cargo, it is the weight of the wheel load.

I have seen in Texas passenger buses running around the different highways. I have read what they weigh but I don't remember the figures. Assuming that under a law there is no restriction whatsoever put upon the number of [fol. 384] pounds of people a passenger bus can carry and assuming I can have a combination of passenger vehicles 45 feet long, you could carry on that kind of passenger vehicle as many as a hundred persons, if you don't exceed the capacity of the pounds on any given wheel. You could carry on the vehicle as many as a hundred persons in that length of vehicle, probably one to two square feet; the average weight of people is about 150 pounds; about 80 pounds per square foot, with people packed as closely as it is possible to pack them.

Take a passenger bus carrying 15,000 pounds of persons and a commercial vehicle or truck carrying 8,000 pounds of merchandise, if the gross weight of the two trucks were the same, there would be considerably more damage done to any highway by the 15,000 pounds of passengers, because the wheel load is heavier.

Thereupon the Complainant and Interveners offered in evidence a codification of the laws that are in existence in different states in the United States, dealing with net loads, the same being summarized on page 150 hereof.

To which testimony the Respondents objected on the ground that such was wholly irrelevant and incompetent. The Court overruled the objection and allowed a bill of exception.

[fol. 385] R. J. WINDROW was thereupon called as a witness on behalf of the complainant and interveners, and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I live in Dallas; have lived there about nine years. I am an engineer and contractor. I am a graduate of A. and M. College of Texas and had several years experience as a railroad engineer and as a highway engineer and three and a half years as State Highway Engineer of Texas, two years consulting engineer on the Highway Department of Missouri; I have been practicing engineering and highway engineering and contracting for a number of years; I was Highway Engineer for the State of Texas from 1918, I believe it was, to 1921.

I am familiar, in a general way, with the roads of Texas and traffic that customarily uses them. Those factors which are essential to be considered when discussing the question of what damage vehicles do in using the highway to the highway, as an engineer I would consider first the sub-grade condition, the bearing power of the sub-grade; then he would take into consideration the loads per square inch to be sustained by that pavement, and then he would take into consideration the impact of speeding vehicles as well as loads; then temperature stresses, that is temperature changes.

[fol. 386] Naturally, you would take into consideration, in addition to these other factors, the abrasion, the drainage, the supporting power of that pavement or bridge or whatever you are building, to sustain traffic.

With reference to the vehicle itself, the load and speed would be the main factors to be taken into consideration with respect to whether or not it is or is not likely to damage a particular highway.

The net cargo or load of a vehicle, in my opinion, has no relation to the matter of whether or not such vehicle is likely to damage a highway, only insofar as making up part of the gross load.

If I was as an engineer, asked to design a road which would sustain a net load of say 7,000 pounds, I would not

know how to design such a road. If, on the contrary, I was asked to design a road and was told what the gross axle load would be or the gross wheel load would be, with that information and data, I could design a highway and have before me sufficient information which would enable me to build it structurally to sustain a load, but I would in addition to that need the distribution of that load to the wheels and the width of the wheels, the square-inch load.

Wheel load is the only thing that you could use in designing a road, wheel load and the distribution per square inch of the pavement, because you have got to take into con- [fol. 387] sideration the distribution of that particular weight to the square inch of pavement, so that you will know what the bearing power of that road is to be as well as the impact and other features that enter into it.

If I have before me consideration of the problem of protecting the highway by reason of weight placed on the highway, net load is no factor that enters into the reasonable consideration, net or live load hasn't anything to do with it other than making up the part of the total of gross load. It is not necessary to know the live load in order to design a road.

Based on my experience as a highway engineer in Texas and my knowledge and familiarity with the highways and bridges of this State, a restriction of vehicles to a net load of 7,000 pounds, taking into no consideration the question of wheel load, not taking into consideration whether I had rubber tires or iron tires, not taking into consideration the distribution of the load onto the pavement, I would say that it had no direct connection with the question as to whether it was a safe load to carry over these roads or not because you could not arrive at the answer just from that information.

Suppose the mischief which is aimed at in the law so far as the weight provision is concerned is the protection of the highway from damage, a net load restriction would have no tendency at all to remove that mischief of highway [fol. 388] damage, in my opinion it wouldn't have any at all. That would be true with respect to both rigid roads and non-rigid, it is not a factor by itself in the design of any road.

Assuming that we have a law which says you cannot carry over 600 pounds of load and refers to gross load per

inch of tire on the paving, it does not say whether it is a rubber tire, an inflated tire, a hard tire, an iron tire, or steel tire, I think you would have to take into consideration the kind of tire that you would have in order to be able to properly design a road to meet such a situation.

I am familiar with the type of construction of concrete roads in Texas. The specifications for those roads call for strength of 3,500 pounds per square inch; that would carry quite a heavy wheel load if you worked it down; working it down, anyway, you would have 3,500 pounds per square inch.

I do not know of any road in Texas which is not, practically speaking, adequate in construction and design to carry on it an ordinary vehicle with a load of 7,500 pounds properly distributed through its different axles and properly dubbered and properly distributed, I don't know of any road that has been built that would not carry a greater load than that, that is, the gross load, considering that it was properly distributed: I do not know of any that would not carry a gross load of 12,000 pounds properly distributed. I do not know of any that would not carry under ordinary [fol. 389] conditions a gross load of 15,000, properly distributed.

When you consider dirt roads of non-rigid type, both weight and speed enter into the question of damage to the road; I think principally the speed, speed and impact, more than weight. If it hasn't some kind of a protective surface, of course, speed will destroy the road by having it blow away, or having it thrown to the side, more than actual weight, and if you are going over a road that hasn't some kind of covering on it, the impact from the speed would do more damage than ordinarily weight would do. I think the excessive speed on the non-rigid types does more damage, lighter excessively speedy vehicle will do more damage, than your heavier slower moving vehicle. On a gravel road, I am sure that the speedy vehicle would do more damage by causing more dust and throwing more material off of the surface of the road than the heavier slower moving vehicle.

I have seen some of the motor buses that operate on the highways of Texas; I am only familiar in a general way with about what size they are and the number of people

they can carry, I have never made a particular study of the motor bus. A passenger bus 45 feet in length by 96 inches in width, double deck, figuring 150 pounds per person and about 80 pounds to the square foot possible passenger-carrying capacity, could carry about 360 people; I figured a person to every two square feet.

[fol. 390] Take a single deck passenger bus, figuring 80 pounds to the square foot, bus 35 feet long and 96 inches wide, you could load 180 people on there. I would say 90 people, something like that, could sit down and be carried in that kind of a bus in comfort. That would be 180 on a double-decked bus. Carrying approximately a hundred people that way, that would weigh around 14,000 pounds. I have just considered passengers, not baggage they carried or how much more might be put into that truck in baggage; if they had any baggage that would be extra weight.

I have no idea how many passenger buses there are in Texas. I only know from news papers as to the ownership of the buses, I see some of them with railroad names on the buses, I presume they belong to the railroad. I don't know of my own knowledge about that. I don't know who owns the Greyhound Lines.

A passenger bus carrying 14,000 pounds of people, traveling at a speed of 45 miles per hour would do more damage from deterioration on the non-rigid type road or the impact in rigid types than a commercial truck carrying a 10,000 pound load of similar design and construction with respect to tires and the like as the passenger bus, going at a rate not to exceed 25 miles per hour, assuming that to be the net load and that the vehicles are the same in each instance.

When you consider the problem of highway damage from [fol. 391] the standpoint of net weight, I would say there would be no difference whether you were carrying people or whether you were carrying fish, it is just the load that is being considered; there would be no difference between that and any other commodity that I know of that would make any material difference between those two classes of vehicles if you were considering net load alone.

I have lived in Texas most of my life except a couple of years in Missouri. Farm products, citrus fruit and the like carried to market by truck has been increasing every year; it is quite a large amount.

Stipulation

It is agreed that cotton and livestock and farm products all move to market or to a common carrier receiving point in trucks over the highways of Texas in large quantities, and that that movement continues in some part of Texas practically thruout the year.

I am assuming in all of these answers that your trucks are all equipped with standard permissible tire equipment, as well as your passenger vehicles.

I would say that the fast-moving vehicle will always do more damage to a gravel and dirt, macadam and shell road, than a slow-moving heavy vehicle.

[fol. 392] Cross-examination.

By Mr. Cook:

An engineer approaching any problem has to bring to bear his professional knowledge acquired in his collegiate training gathered by experience and with that as his background he gets his data in front of him for his problem.

Assuming that we already have our highways built and our problem is to make necessary regulations to prevent too rapid a determination and two large a maintenance cost; with that problem before me, I would say that limiting the net load to 7,000 pounds had no relation whatsoever; you would have accomplished nothing unless you limit the load per inch of width of tire; in other words, the distribution of that load, the gross load, not necessarily the net load.

I would like to qualify that to this extent, that if you are limiting the gross load to much less load than these highways have been designed to carry, you have accomplished something, because at the same time you are limiting your net load you are also allowing and causing a limitation of the gross load.

I will say that as far as rigid types, I don't think you have made any progress at all, because these roads were designed and built for carrying more load than that. I cannot, for the life of me, see any place where the net load is justified in specifying the load that a highway can carry.

[fol. 393] I think that when you limit the net load, you are doing more damage to the roads, because you are causing it to be carried in lighter trucks at a rapid rate of speed, a

more rapid rate of speed. It would make lighter trucks, and combining the maximum net loads permitted with the weight of the truck, you would have a limited maximum gross load. Maximum gross load has some relation to our problems. You have not by specifying a limited net load, accomplished a limitation of the thing I said was the important factor, because that, as I say, has very little to do with it. I am proceeding thru the theory of wheel load, that is my idea.

I think a limitation of 600 pounds per inch width of tire is all right, and then if you add a limitation of net load and combine the two, I see no relation between the net load and the distribution of the load per inch width of tire as a safeguard against too rapid deterioration and too large maintenance cost.

To adjust 20,000 pound load to about what I would say the legislative standard was in this law, you have got to come back to your gross load or your wheel load or your distribution load. Say it weighed 20,000 pounds, in order to carry it properly and conform to what the legislature has in mind as to this restriction, you would have to design your truck strong enough and heavy enough and the number of tires, etc., to stay within this restriction.

[fol. 394] The Legislature has regulated the tires of vehicles of the State, it would require them to do that; if they preferred to regulate the net load that would be just their preference, I see no reason for it.

If the Legislature preferred to favor this passenger-carrying vehicle, that is just a preference of theirs; I see no justification in restricting one without limiting the other. If you took off the ordinary commercial vehicles except the passenger-carrying vehicles, you would lessen the maintenance cost and deterioration on these roads; if you take any number of vehicles off the roads you lessen the maintenance cost.

I did not say that a light-weight car operated at 45 miles an hour does more damage to these highways than a truck carrying 15,000 pounds; I said on a gravel or a shell road or road of that type; I didn't say that about rigid type roads. I do not include in that statement the bituminous top roads; I mean loose gravel or something that will be blown away, stirred up and blown away by a fast-moving passenger vehicle. A Ford car on the one hand and a truck carrying 15,000 pounds on the other hand, with the same

number in operation, the light-weight Ford passenger car will not do more harm, I didn't say that; the question to me was limited to certain weights. He asked me about this base here, he said if they had 10,000 pounds of live load and [fol. 395] 15,000 pounds of live load, the truck properly designed for carrying those loads, one of them running 45 miles an hour and the other one running 25 miles an hour, which one would do the most damage and I said the passenger vehicle, per each single unit.

I have observed breakdowns in roads, particularly concrete roads. I think these concrete roads in Texas are designed to carry either a light car or a truck loaded without any damage, the concrete or concrete with concrete base and asphalt top. As designed they are not entirely free from deterioration in use, but it is so insignificant as to reasonable traffic. Somewhere you reach the point where you go beyond reasonable imposition of this weight and you have got to stop.

I think the change in the regulation, insofar as weights are concerned, does not lessen the maintenance cost at all on rigid type roads. I think they should be regulated. As to gross weights, regulation will have some effect upon the state of the highways; by regulating the net, we have also regulated the gross, whenever you legislate that you have legislated certain trucks out of business, and naturally you have lessened the load and lessened the traffic.

With the limitation of speed enforced upon the small car and the other factors, I don't think either one of them would do any irreparable damage on a well-constructed gravel road, and the same would be true as to a shell road.

[fol. 396] Redirect examination.

By Mr. Franeis:

There is no difference in the damage to a concrete road by any vehicle that runs over it of a weight within the limitations of 9,000 pounds per wheel, properly equipped with tires, etc; the damage comes when you exceed those maximum limits. That was definitely determined within my knowledge by the Bates experimental tests that were conducted to determine the effect of weight upon pavement; I was up there as an observer on those tests while they were

going on and that is a fact, it was proven. Those tests were conducted by the Highway Department of Illinois.

I am familiar with the views expressed by Mr. McDonald, Chief of the Bureau of Public Roads, before the Interstate Commerce Commission; I know my views are in line with his views in general.

WALTER BECK was thereupon called as a witness on behalf of Complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I live at Fort Worth; I am in the automobile business, [fol. 397] and have been for sixteen years; for the last eleven years I have sold trucks, chiefly the smaller ones; I have sold less than 20 of the trucks that would be seriously affected by this legislation, I believe. I am a member of the Committee on Highways and Motor traffic for the last six years; I was Chairman of the committee on highways and motor traffic during the present term of the legislature, and as such it has been my duty to study highway problems with reference to traffic and road building and the like. I am Chairman of the Highway Committee of the Fort Worth Chamber of Commerce and have been for a number of years, beginning that work first in 1911, 20 years ago.

We are just completing a program at Fort Worth now that was formulated by this Committee under proper engineering advice that involved a total expenditure in the neighborhood of eight and a half million dollars for road building.

My experience has been such that I am familiar with the manner in which our Texas highways are constructed and the way in which they are used by vehicles and the effect of vehicles upon our highways.

I heard most of the testimony of Mr. Windrow and of Professor Ryon as to the safety factors that were to be taken into consideration when I determine the question of the effect of vehicles traveling the highway with reference to the damage which they do the highway. I agree that the

[fol. 398] factors which they enumerated are the factors which are ordinarily to be considered in this question of highways damage.

I cannot see any relation in restricting the net load of a vehicle to the question of whether or not that vehicle is likely to damage the highway. I have this in mind, too: I sell a truck designed to carry 7,000 pounds body load and they weight 7,500 pounds. Some competing trucks that are claimed by the manufacturers to carry the same load weigh as much as 12,500 pounds, and I can't see that there would be any uniformity in the outcome or any relation at all to the damage that may be done to a highway on a pay load basis.

There is no reasonable relation in a restriction of 600 pounds per inch tire spread; that 600 pound limitation with this weight limit in effect, is wholly meaningless, because you cannot load a truck up to anything like approaching that limit. For instance, a Ford truck would have not less than six 6-inch tires, and, if you take the weight of a Ford, plus 7,500 pounds load, you would only be loading 316 pounds to the inch, and the relation would hold fairly constant thruout other makes of trucks. This 600 pounds to the inch of rubber spread is a usual restriction that is observed generally and considered good engineering practice thruout the country, if the tires are rubber. The largest trucks I have had any experience with have ten inch tire spread; on a four-wheel truck you would have 40 inches tire [fol. 399] spread, which would permit carrying within that safety factor of 600 pounds to the inch, 24,000 pounds on a four-wheel truck, gross load. They often have dual tires, two tires on the rear, making a tire spread of 20 inches on each side of the rear axle; that would be permissible under this bill. Usually when they put two duals on the rear they use a somewhat smaller tire than the one that is used in front, but, ordinarily, that would be four 8-inch tires on the rear and two 10-inch tires on the front, which would give fifty-two inches tire spread, and would allow a gross weight of about 32,000 pounds.

The most destructive element on dirt, shell and gravel roads, I think is rather the natural element instead of the traffic, lack of drainage or improved drainage, the action of the weather and the wind. In the case of gravel and shell roads, high speed, especially when the wind is blowing, has

a tendency to displace the surface and sometimes get the material out of the right of way. A road that is properly maintained, of whatever material, just so it is anything like a stiff road material, ought to get constantly better under any kind of traffic, reasonable traffic. We do not design in this State any highways to stand concentrations greater than common practice over the United States would indicate that we ought to, and that varies according to *statitutes* in other states from eight to nine thousand pounds per wheel; I don't think we can afford to design a road to haul lesser [fol. 400] traffic than that because it is too expensive to maintain under any kind of traffic, and if it is maintained properly and the chug holes are filled in from time to time, it is going to be brought up to that standard, whether we use it for loads that great or not.

The only basis I would have for an opinion as to whether the maintenance cost on a gravel road would be reduced if there is excluded from that road all vehicles carrying a net cargo of more than 7,000 pounds and continued to permit those roads to be used by light passenger cars and trucks carrying smaller loads, is some comparisons that might be made in Tarrant County where I live. We have some lateral roads, for instance, the White Settlement Road; there is no heavy traffic over it, no large trucks; I presume there have been occasions when a heavy truck went over it with a heavy load, but thruout a traffic count you would not find a half of one per cent of the loads that would exceed seven or eight thousand pounds and very few trucks of any kind go over it; maintenance cost on that road runs higher per mile per year than the maintenance cost runs on any of our improved State highways in that county, even those that have the heaviest traffic with the heaviest vehicles. That road is subject to travel by light vehicles run at a high rate almost exclusively.

The number of vehicles, I think, has a greater result in depreciation than the weight of the vehicles, if you have got [fol. 401] anything like the proper type of roads. The records of the State Highway Department indicate that our highly improved type of road costs $470.00 per mile year less to maintain than the average of all of the worst roads that are in the State system. That is maintenance difference, so that the maintenance cost on an inferior road is

perhaps not as high as you would expect, and that was during the period when the old law was in effect.

It must be borne in mind that the real heavy trucks used in this State, a very vast percentage of the total traffic is concentrated in those areas that have good roads; most of the heavy movement is in such areas, probably the outstanding exception being the oil field territory.

Under the law which has been in force in this State up until recently, I believe they have permitted a maximum gross load where you have six tires up to as high as 30,000 pounds and on a four-wheel truck 22,000 pounds. I think the highways of Texas that are in use have been built and constructed to maintain loads carried under the restrictions of that law. I hold to the opinion that if these highways are built for pleasure, they are just a luxury the State cannot stand, and we cannot afford to build a highway less than the kind of highway that will allow us to get some economic use of it in transportation ways.

In my opinion, the effects of this bill which restricts the [fol. 402] cargo to 7,000 pounds, to a load not to exceed 600 pounds to the square inch of tire, and does not specify what kind of tire, has no relation at all to the question of protecting the highways from damage. I think the Legislature fully intended to bring about an economic effect in transportation; I don't think they have made any mistake in what they were trying to do; I think they were trying to produce an economic effect in transportation and not an economical effect in highway cost; that is the sole effect of this legislation, it is the only law I ever saw passed that would require a public utility, if such it is, to abandon efficiency and be forced by operating practice to raise its costs to the user; I refer to the common carrier truck lines who are operating.

No reason was ever stated to me why the proponents of these measures desired the restriction as to load limit applicable to trucks and not applicable to passenger buses. I am familiar with who owned some of the passenger bus lines in Texas. I know that the Southern Pacific has a substantial interest in the Southland Greyhound; I have recently been informed that that interest has been increased; I don't know that that is a fact, though. The Missouri Pacific operates a splendid system down in the Valley and operates some equipment out of here. The Cotton Belt

owns a network of lines up in Northeast Texas and also run a line west from, I believe, Dallas, thru to California; I think they operate it all the way thru. Buses carrying [fol. 403] passengers are operated on practically all of our State highway system. Their schedule varies from hourly to departures two or three times a day, sometimes once a day, depending on the density of population and frequency required; in actual practice their schedules are more frequent than trucks because they operate faster.

I can see no difference as to endangering the highways between a passenger bus operating at a good speed, up to 45 miles an hour, where it carried a load of human cargo of 10,000 pounds and was of like design with the truck carrying mercantile cargo of 7,000 pounds. So long as your weight is the same, I don't see any difference whether it is a passenger bus or a truck or a hearse, it is the weight plus the speed that counts.

There is a wide variation in the weight of passenger buses used on the major lines in Texas; the most of the 21 passenger buses weigh about 10,500 pounds on up to 26,000 pounds empty.

With a passenger bus of inside lengthwise dimension of about 35 feet and 96 inches in width and ample aisle space, you could set a tier of four seats on 31 inch centers, there would be about fifteen tiers, four passengers each would give you sixty passengers on each deck; I think a bus could be designed under this law to comfortably carry and seat as many as 120 people; I don't know what engineering diffi- [fol. 404] culties would be encountered. You would then have a load on that vehicle of approximately 150 times 120 passengers. I don't know that there is a passenger bus passing thru this State designed for Pullman cars, I have been told there is; they are very usual things out on the coast.

The Greyhound as an example, most of their buses are equipped to handle 25, 29 and 34 or 35 passengers. The gross weight of one of those 35 foot vehicles would run around 29,999 pounds, the heaviest one of them. Under those conditions, all conditions being equal, the bus would have a tendency to cause more wear than the ordinary two and a half ton truck carrying a load of 7500 pounds, but if your road is right, neither one of those vehicles, nor a truck of the same weight, is going to do any damgae to the high-

way. I cannot from my knowledge and experience with highways and vehicular traffic, tell the Court any reason why there should be made a difference and a distinction between the weight carried on a truck and that carried on a bus.

Cross-examination.

By Mr. Cook:

I was a member of the Legislature that enacted this law; I was opposed to the enactment and did all I could to prevent its passage. I do not think I have an interest contrary to the provision of this law; my interests may be affected [fol. 405] by it, if this law stands we look for a great demand and a great increase in the number of light trucks in use on the highways.

I expressed the view that the Legislature had in mind an economic purpose, rather than public safety or protection of the highways. I remember the language of the emergency clause.

I have not seen very many buses with as many as a hundred people on them in Texas; I have seen quite a good many in city service with a hundred on them. I think there has been that many on a bus that runs from here to one of the oil refineries on the canal; that goes down to Sinclair carrying the employes back and forth; unless I am mistaken there are two of those companies using that equipment.

The Southland Line I think has the largest buses in the State; I think that twin-coach Fageol is a 40-passenger unit; I think that is the maximum that I know about in Texas in regular service on the road.

I stated that the highways could carry that much weight and according to my views it is all right to permit it, whether it is a truck or a bus. I object to the law because it raises transportation costs of everything produced in this country, in my opinion; I approach it from an economic standpoint. I say that these regulations incorrectly affect the economic situation.

[fol. 406] I think that it is our duty to use the resources that we have invested in the highways up to the limit that it does not begin to backfire on us somewhere. We have got to have some restrictions in its use and I sympathize fully with the gentlemen that want to keep the railroads in existence,

too, and I believe, if we put stringent enough safety regulations on the trucks that use these highways, that it will get the economic effect that you are after.

On this Fort Worth highway system, as consulting engineer for a short time we had Mr. A. A. Thompson, of Dallas, who had been State Highway Engineer, working in connection with our own County Engineer, Mr. Damon Davis; the plans subsequently have been prepared by the County Engineer, approved by the resident engineer of the State Highway Department, and then by the Austin staff of the highway department. At the beginning, Mr. Thompson participated and cooperated with our own engineer.

W. J. POWELL was thereupon called as a witness on behalf of the Complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

[fol. 407] I live in Dallas. I was graduated at the University of Texas in 1905 as civil engineer, spent several years in the Tropics, and in 1910 entered the City Engineer's office in Dallas, where I remained in various capacities for seven years until 1917, dealing with street paving and other municipal structures. During the War I was in France with the corps of engineers and after the War was for a time County Engineer of Dallas, and then since then I have been in the consulting practice largely, most of the time; there was a period when I was again with the City of Dallas, but, except for that, since that time in consulting practice.

In the design of highways and the regulations imposed on the traffic, I think the factors involved are the protection of the investment of the public in the highway itself, the protection of the public from the safety standpoint; I believe those are the main points to be covered.

The elements in traffic which contribute to highway damage are the weight and speed of the traffic, the impact of the traffic moving over the highways and the wear and tear on the surface of the pavement; those are the main things.

When I am considering that problem, there is no relation between the net cargo which a vehicle carries and the damage which that vehicle will likely do to the highway as it goes over it, except as the net cargo is a component of the total weight of the vehicle.

[fol. 408] If I were going to design a highway and had before me the net load which the vehicle was to carry, I could not properly design a highway with that information; if I had the total maximum wheel load I could. In my opinion as an engineer and from my experience, there is no direct relation or any reasonable relation whatever between the net cargo of a vehicle and the damage which it will likely do to the highway. I understood that by net cargo you mean the net weight of the cargo.

There is no standard pavement in Texas that could not carry with safety and efficiency a load properly tired of at least 8,000 pounds per wheel; there may be some of the older concrete pavements built a good many years ago that are weak with respect to such load, but no standard pavement in Texas of that type that could not carry that load.

I do not know of any highway in Texas, whether dirt, shell, bituminous or concrete which has not been built and constructed of sufficient strength and size as to take care of the ordinary two and a half or three ton truck, I don't know of any such road.

I think it can be said that no bridge which has been built under the State Highway Specifications and its control that would not withstand a very greater load than that; there may be some bridges in the State built by the counties on the various highways in the days when they [fol. 409] bought bridges by the yard that would be weak with respect to such load. In those events it is the custom of the State to reroute the traffic around those by detour or replace the bridge.

Within my knowledge, there are no highways in Texas that could not safely carry commercial vehicles on which there was a load of more than 7,000 pounds, I have gone over a good portion of the highways of the State and I see that type vehicle operating over them constantly. They do it with safety to the highways when they are properly tired and the weight is properly distributed.

If the speed is the same, I think there would be no difference between the damage which a passenger bus with its load weighing 28,000 pounds, will do to the highway and the commercial truck, with its load weighing 28,000 pounds.

If under the law the passenger bus it allowed to run one-third faster than the commercial vehicle, the bus would do very much more damage by reason of its greater speed.

I should say that the bridges in Texas would be safe for a passenger bus with its gross load of around 25 and 30 thousand pounds, as well as for two and a half to three ton trucks, the bridges particularly would be much safer for the trucks than for the motor bus, because impact is a very important consideration in bridges and the higher speed of the buses produces greater impact stresses in the structure than the lower speed trucks.

[fol. 410] Assume that you have legislation for regulation of the highway that limits the load on commercial trucks or vehicles to 7,000 pounds and provides that in no event shall the gross load exceed more than 600 pounds per square inch of tire and there is no provision whether that tire should be of rubber, iron, or steel, I should say that that is wholly unscientific and illogical from the standpoint of protection to the highways or from the standpoint of design of the highway. Of course a limitation of weight per square inch width of tire is a protection to the highways, I can see no connection or relation between that provision and the net load provision. There would be some difference in the effect on the highway as between an iron tire and a rubber tire; also, there is a considerable difference in effect on a highway between a solid rubber tire and a balloon tire: it would seem that the kind of tire should be stated.

Cross-examination.

By Mr. Cook:

In designing a road you have got to arrive at the amount of a load to be taken care of, you must have and usually do, have a maximum wheel load that you design your structure for, that is your standard. I think the general practice is to design for the maximum wheel load permitted by law in the various states, the state you are working in. The

[fol. 411] distribution of the load on the wheel itself is a very important factor in that. I would have to, have some information before I started my work about the traffic that actually needs to be taken care of; that is to say, the vehicles that are used in traffic on the highway, their weight, in order to arrive at a standard to know what gross load I have got to take care of.

The thing that is is important in designing a highway or any other structure that carries a load is the amount of that load and the method of its application to the structure. Gross load, which is the important factor, is made up of the weight of the truck plus the weight of the load. If I actually know what the weight of the truck is and it is going to be constant for me and I don't have to fool with it, if I regulate the other factor, I have the whole thing regulated if you have just one truck.

Assuming that the Legislature prefers to take into account the average trucks or the maximum that may operate on its highways and adjust the net load to that, I don't think you would arrive at a result in respect to the gross load, because some might build the truck to carry that same load out of aluminum or something else that would be very much lighter.

I think when you limit the net load to be carried on a truck in Texas you are going to distribute the same amount of freight, approximately, carried over a great many more [fol. 412] trucks, lighter trucks are going to be used, but they are going to carry approximately the same amount of freight. I don't think it would necessarily follow that if you reduce or increase the weight of a load you reduce or increase the weight of the truck which carries it. If you can't carry but one thousand pounds to a load, you wouldn't have a 15,000 ton truck to carry it, but you could carry that same load on another truck. The result in reducing the load would be to use lighter trucks.

I stated that bridges, as far as I know, are adequate to take care of these buses, and I think they are adequate to take care of a greater weight trucks than permitted by this law. I don't think it makes it safer for general traffic, including the bus if the heavy loaded vehicles are lessened outside of that category, because I think the heavy loaded buses is the thing that is most likely to cause damage to

the bridge. Within the limits of ordinary traffic, I don't think that repetition of heavy use is a very important factor, rather than a less frequent use.

Examination by the Court:

I think the highways can carry so much more than 7,000 pounds that that has nothing to do with the injury to the highways. If the Legislature said that you could not haul more than 15,000 pounds on your truck, that is all I had in [fol. 413] the way of information, from the standpoint of an engineer designing the structure, I would say that it would be wholly valueless, because I am not interested at all in the net load but I am interested in the gross load and its distribution and its application to the structure I am designing.

I don't think that I said the amount of load which a truck carries has nothing to do with the load on the road; I said that, except as a component of the total load. I don't know the proportion between a truck and the load in weight. I think if you restrict the amount of the load you will restrict the weight of the vehicle hauling it from the economic standpoint of the haul. A one ton truck is supposed to carry a one ton load; I could not off hand say what the weight of the truck is; I know something about the weight of the trucks that carry the load; I know what the weights of certain trucks are and I know what the weight of those trucks would be under the 7,000 pound load; I know what the distribution of the load on the road would be under those conditions. I would have to have the gross load and its distribution before I could make any reasonable attempt to design a road. There may be some relation between the size of the load and the size of the truck that carries it, I am not sure about that; there is some, of course, but I don't know that it is uniform; I have had some experience in working trucks but I am not a truck operator, I am an engineer.

[fol. 414] Redirect examination.

By Mr. Francis:

I said it would be natural tendency in the course of time for the size of trucks to diminish and their weights diminish

to adjust themselves to a 7,000 pound load. A man owning a truck built and designed to carry a load of 12 to 18 thousand pounds, which is legal in Oklahoma, but who is carrying commodities between Houston, Dallas and Oklahoma City, I presume that he would have to retire his heavier equipment and run lighter equipment in Texas, because he would have to comply with the law. The economical operation of the vehicle would enter into that; it might be more economical to scrap the vehicle and get a new one that would fit the load than too use the larger vehice with an uneconomical load.

I think that any road which is designed and built, whether dirt or gravel or what not, to withstand ordinary weather conditions and light vehicular traffic, is adequate and sufficient to carry trucks that are transporting loads exceeding 7,000 pounds.

If our highways are built so as to carry passenger buses ranging in weight from 10,000 to 30,000 pounds, unloaded, and if our highway bridges are constructed so as to withstand that kind of traffic, they are adequate to take care of commercial vehicles carrying loads in excess of 7,000 pounds.

[fol. 415] Suppose you have a bridge which is so constructed and built as that it can take care of the weight of a passenger bus empty weighing 22,000 pounds, the mere repetition of approximately that weight or a little less going over that bridge would have some effect but not a material effect on the likelihood of destroying that bridge, merely by reason of repetition of loads.

J. C. McVea was thereupon called as a witness on behalf of the Complainant and Intervenor and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I studied engineering at the University of Texas, graduating in 1897; I was for five years in the electrical industry, about ten years in railroad work and for sixteen years

with the City of Houston Engineering Department. Since that time I have been in private practice. For ten years I was City Engineer of the City of Houston. I am a member of the American Society of Civil Engineers, also a member of the American Society for Municipal Improvements. I was Chairman for two years of the Committee on Subgrades and Pavement foundations of the latter Society. [fol. 416] During that time we prepared a standard set of specifications that was adopted by the Society as standard practice.

I have heard the testimony here of Professor Ryon and Mr. Windrow and these other gentlemen introduced as witnesses where they detailed the factors which were taken into consideration in highway construction and with reference to protecting the highways from damage. I agree in subtsance with those factors which they have enumerated, I believe they have covered the case substantially. That substantially expresses my views.

(The testimony of this witness was merely corroborative of that given by the witnesses Professor Ryon and Mr. Windrow, and for which reason his detailed direct and cross-examination is not here set forth.)

J. F. RIGHTMIRE was thereupon called as a witness on behalf of the complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I am a graduate of the city schools of Topeka, Kans., graduate of the Iowa State College at Ames, Iowa, civil engineering; worked six years for the Santa Fe Railway [fol. 417] Company, seven years in the engineering force of the El Paso, Southwestern Railway Company, one year in consulting work, one year as District Engineer for the State Highway Commission of Louisiana, eight months as Assistant District Engineer for the State Highway Department of Arkansas, eight and a half years with the State Highway Department of Oklahoma as Assistant State Highway En-

gineer and Acting State Highway Engineer. I am not now connected with the Oklahoma State Highway Department, I am in private practice since the 21st of September of this year.

I am familiar, in a general way, with the types of roads which we have all throughout the Southwest, say Oklahoma and Texas. I heard the testimony of the other witnesses, engineers, whose testimony has been offered as to the factors that entered into the question of protecting the highways from damage by reason of vehicular traffic. I think as they have enumerated them that they are substantially correct.

The only connection between net weight of load and damage that that vehicle may or may not do the highway is the net weight as a component part of the gross weight which is applied on the pavement.

I don't think I could construct a highway which would be adequate for the traffic it was going to carry if I were given the net weight of the vehicles that were to travel a highway; I would want to know what the maximum wheel [fol. 418] load would be that the pavement would be called on to carry. Another thing to be taken into consideration in determining highway damage is the speed at which the vehicle is going to be operated. Another element is the element of impact, which is dependent more or less upon the speed of the vehicle and on the kind of tires your vehicle is equipped with and the smoothness of the riding surface of the pavement.

Assuming our highway system thruout Texas are built and designed to withstand ordinary weather conditions which prevail in this section and also to carry passenger buses whose weights range from seven to twenty-two thousand pounds empty, such highways are adequate to carry commercial trucks transporting loads in excess of 7,000 pounds.

There is a difference in the damage that is done to a non-rigid type of road by heavy traffic going over it and by light, speedy traffic. If conditions are favorable, the weather dry, warm weather and not raining and the road is in a dry state, the light, speedier traffic will do more harm than the slow-moving, heavier traffic, because in this country where you have these prevailing winds the light

traffic will pick up the light particles, the binder of the gravel, and the light particles of shell and throw them up into the air and throw them to the side and the wind whips it up so that in the western part of Oklahoma we figure on the loss of an inch a year due to weather conditions and the [fol. 419] light-moving traffic. Of course, in order to be fair, you have got to admit that the slow-moving traffic helps to grind it up, but it doesn't whip it up like the light, faster-moving traffic does, and get it out where the wind whips it out.

I am familiar with the specifications in common use in building our concrete highways; they are built six inches thick, that is if it is the Bates type section, 9 inches thick at the edges and it narrows to six inches, two feet in to the center; fourteen feet is six inches in thickness and then deepens to nine inches on the other side. They are built and designed to withstand a wheel load of approximately eight to nine thousand pounds to the wheel.

Within any restrictions which are less than that weight of eight to nine thousand pounds wheel load, there is no material damage done that highway by traffic going over it, regardless of the amount or volume, where the loads do not exceed those limitations.

When I speak of damage to concrete highways from a large number of heavy vehicles running over it, I call it fatigue of the material. Considering the problem of traffic and the damage which it does to the highway, fatigue is of no material consideration by an engineer considering the matter.

Cross-examination.

By Mr. Cook:

[fol. 420] When I go to construct a modern concrete highway there are a good many things I have to think about, among others, I have to consider sub-surface, drainage and other conditions. Texas black soil has some rather peculiar characteristics; with reference to moisture, the only thing is this: If it gets your sub-grade wet and the pavement lays on that sub-grade, it is hard to take care of your temperature stresses and that causes cracking and pulling and so on; the pavement won't allow it to slip and it causes cracks

in the pavement. When it is very dry it cracks under there and does not support the pavement properly, and recedes from it. I don't think it likely that a heavy weight on pavement affected by such conditions as that might break it down, by the way you figure your stresses and the way your pavement is designed and the reinforcements you are putting in. At the present time, I don't think that the effect would be more than negligible. On the lower type road you are bound to have those factors and damage, and overloading is an important thing to consider if you are going to regulate your highways and the traffic on the highways.

I expressed the opinion that net load was not an important factor, but if you regulate net load, you regulate indirectly your gross. These tests that were made up there were tests that were made on concrete highways that met the very best specifications at that time, 1921 and 1922.

[fol. 421] I am familiar with the Texas highway system pretty generally and the varying types of road. My understanding is that the State highway system of Texas comprises some 40,000 miles, and there is approximately seven or eight thousand miles of high-type concrete road; that is my information. I have had more or less dealings with the Texas Highway Department, exchanging specifications, plans and everything of the sort, for approximately ten years, working under the same standards set forth by the District Office of the Bureau of Public Roads. I couldn't say how many miles of the non-rigid type Texas has.

[fol. 422] E. L. Farmer was thereupon called as a witness on behalf of the Complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Rawlings:

I live at Breckenridge, Texas; I am engaged in oil field hauling by trucks; I have been in that business seven years. The general nature and character of my operations is that of hauling oil field machinery and material only, over the highways by motor trucks; I have operated thruout the entire state with headquarters at Breckenridge.

I have fifty-four trucks in my fleet; I have been engaged in the trucking business seven years. In my operations we use various sizes of four-wheel trucks, together with two-wheel semi-trailers; I mean by that, truck tractor and semi-trailer in combination; that gives me three axles in support of the load. I should think there would be at least one thousand other operators in Texas engaged in the same character of business; I would estimate that there would be employed ordinarily 20,000 trucks by the thousand operators. My testimony is there would be about 20,000 trucks in Texas using the highways transporting oil field equipment.

The average distance that I would haul, going from destination to a common carrier receiving point, using the [fol. 423] *the* public highways, keeping in mind the new statute where I could haul it from origin to the nearest practicable common carrier receiving point, would be approximately twenty miles; that would be an average of twenty miles per truck getting it to the common carrier station.

On a twenty mile haul your truck will average two trips daily; if you work steadily, that will be 60 loads a month. The braking facilities on our trucks meet all of our requirements; I am not an engineer; I don't know just to tell you how they are built up, but they are as good brakes as can be furnished by the companies; the brakes on the equipment I use are adequate to stop the truck and control its speed.

I have shops and mechanics that inspect my equipment and keep it in good order to operate over the highways: I have six shops. In that organization I have skilled men that are qualified to repair and keep in good repair the trucks I operate. In operating my equipment I have not had a single death and very few serious accidents.

Cross-examination.

By Mr. Cook:

In arriving at my twenty-mile average for hauls to and from common carrier loading and unloading points, I reach that conclusion by actual experience throughout West Texas; I have set down and put on paper the mileage and [fol. 424] arrived at an average; we keep that accurate in the office; I don't have the figures with me. I don't know

what the average would be thruout the State. I do not undertake to say that there would ever be the intensified hauling of 3,000 trucks a day on any road under any condition, not on any single road; in stating that I was thinking of my particular problem.

Brakes are for the purpose of stopping, not only for the protection of my truck, its cargo and its operators, but with relation to the safety of the general public on the highway. You require more braking power for a heavier truck; the brakes on well built trucks are adjusted to take care of the heavier weight of the truck and of its load, it must be that way. If you use trucks that were constructed for lighter loads and overload them, then you haven't got the braking power for safety.

Redirect examination.

By Mr. Rawlings:

The nature of the commodity that I move, with the exception of boilers that cannot be dismantled, could be moved in 7,000 pound loads, not considering the economical side of it.

As a practical operator, there is nothing about my operation or the equipment that I use calculated or designed to do more damage to the highway than a bus of the same [fol. 425] weight. My operation is practically the same as other oil field operators in Texas.

I have over a hundred thousand dollars invested in the things that I use to transport and carry on this business of transporting oil field equipment over the highway.

Very often practically the same equipment is used in transporting water well drilling machinery and machinery to drill oil wells.

Recross-examination.

By Mr. Cook:

Water well machinery is lighter equipment and there is not nearly as much of it used as oil field equipment.

Examination by the Court:

Our normal net load is approximately 14,000 pounds. I am operating now, hauling oil field material with the same kind of loads; the law has not stopped me. We haul both to

the railroad stations and direct from one location to another. I was pretty largely instrumental in getting that 14,000-pound limit on the bill. I can continue to haul to the station what I have been hauling before, 14,000 pounds, but not for a complete haul. At this time I would say that most of my hauling is to railroad stations. It was not that way before, we used to do more long-distance hauling than we [fol. 426] do at this time. From the standpoint of practical operation as a truck man, there is a difference between the usage of the roads in hauling to stations and in hauling the full load, those hauls to stations or to the common carrier point are very much shorter than the ordinary haul would be in case I carried the whole distance; from one oil field to another, the distances are longer than they would be to the nearest common carrier point.

I stated I was doing more of that to the railroad carrier at this time, carrying it to the shipping point. Mostly, the State highways parallel railroads. All the oil fields are on main highways, the highways of Texas now just about cover the State; there is a good highway leading up to almost every oil field. The greater part of hauling in Texas is done on the main highways; by that I mean the rigid pavements and the gravel and soft material, both kinds, but there is practically no hauling done except on the State system of highways, but there is lots of hauling done on the county roads. When I said most of my hauling was on the state highways, I thought county highways and state highways was the same; I think 75 per cent of our loads are moved over State highways and the balance over the odd hundred thousand dollars a mile country road. Most of the country roads are improved. I don't know how much improved mileage there is in the State outside of the State system. About 25 per cent of our hauling is over plain dirt roads.

[fol. 427] We haul up around Amarillo and out to McCamey. When it is raining we stay off of those roads; they are pretty slippery when it rains; we don't get out in the mud unless we have to, emergency cases.

Redirect examination.

By Mr. Rawlings:

We have to ride a long ways to get the permits provided for in House Bill No. 336, authorizing the transportation

of articles in excess of 7,000 pounds where the article cannot be dismantled; I have to go from Breckenridge to Abilene to get them; if we want a permit at McCamey, we have to drive over to Rankin; if we are down at Sonora and want a permit, we have to drive into San Angelo. It is 68 miles from Breckenridge to Abilene, 20 miles from McCamey to Rankin, and 72 miles from Sonora to San Angelo.

Recross-examination.

By Mr. Cook:

These places I have to go to to get permits is where the District Highway Engineer has his office; the county commissioners don't seem to know anything about it, they told me that only the District Highway Engineer is authorized to write these permits. The law says something about the county judges and county commissioners being in session, if you can manage to catch them in session, you might get a permit out of them.

[fol. 428] J. T. Cox was thereupon called as a witness on behalf of the Complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Rawlings:

I am employed by Sproles Motor Freight Lines, Incorporated, as traffic manager; I have been with this company three years. Prior to the time I went with Sproles I had about a year experience in motor freight transportation business and around approximately fifteen years with various railroads. I worked with railroads as telegraph operator, station agent, train dispatcher, yardmaster, claim agent, transportation inspector; that covers the period of about fifteen years.

I have examined the time table of Southland Greyhound Bus Lines; I noticed particularly the schedule between Houston and Dallas of the Southland Greyhound; I have made a computation of the number of bus miles appearing from that schedule per month. The time table published for the month of October shows the operation between Dal-

las and Houston alone, not including buses going to San Antonio thru Waco, eight schedules daily, approximately 76,000 miles, in thirty-one days.

Sproles operates over the highway between Houston and Dallas and the same highway that we use shows that mileage [fol. 429] of the Southland Greyhound, the same highway. Sproles would travel over that highway in the same time forty-five thousand nine hundred and some odd miles, I don't remember exactly, truck miles, as against 76,000 bus miles.

The average weight of the trucks that we operate over that highway would be around twelve to fourteen thousand pounds; the average load carried on that run would be around 10,000 pounds.

Assuming that the bus carries from 4500 to 5000 pounds, including passengers and baggage, on an average trip, that would make the bus loaded from twenty to thirty thousand pounds.

My observation I think practically all of the buses on the main highways, the larger type, have six tires, four in the rear and two in front; in other words, that would be two tires on each end of the rear axle and a single tire on each end of the front axle.

All of our trucks running on the Houston division between Houston, Dallas and Fort Worth, with very few exceptions, are semi jobs which have two tires on the front of the tractor, four on the rear in dual and four on the rear of the semi-trailer in dual. That gives us ten tires on that truck. Practically all those tires are nine inch spread, a total of 90 inches of rubber.

[fol. 430] A number of the trucks I am talking about are equipped with air brakes, I am not in a position to say just how many, and every truck going in and out of a terminal at Houston and Fort Worth where we have mechanical forces, Wichita Falls and Dallas inspect the brakes before they leave town. It is my understanding, I don't personally know much about the mechanical features, that they are all in good shape at all times. We have a system whereby these trucks undergo a regular inspection for mechanical defects and repairs; we have skilled mechanics in our organization charged with that duty.

The majority of our drivers have been with us for some years and within the past three years we have conducted

regular schools for training drivers as to safe driving and each of our drivers has on file and approved by the Railroad Commission an application for permission to operate a truck on the highways. It is my understanding that the requirements with reference to drivers' license and examination and inspection as to our drivers is practically the same as that the bus drivers comply with.

Our operation is from store door to store door at the point of origin to the point of destination. It would be entirely impractical to be permitted by law to pick up 14,000 pounds at the shipper's door and take that to our depot and lay off 7,000 pounds and then carry the other 7,000 pounds on to the destination.

[fol. 431] I am familiar, in a general way, with the terminal facilities of the truck lines in Texas thruout North, Central and this part of Texas; it is a fact that only in larger cities that anything like terminals of any great capacity are maintained; between Houston and Dallas we only maintain at Waco a depot and employees to receive any large amount of freight. At the ordinary small village along the motor truck line, in most cases they are commission agencies, it may be a filling station or it may be a local transfer man, or someone who has a small pickup truck who delivers and picks up such freight as you might have at that point. Our principal receiving points from Houston to Dallas are Waco, Houston, Dallas, Fort Worth.

I have examined the bus schedule to which we referred a while ago. I believe that my testimony concerning the operation between Houston and Dallas over the highway is typical of the other operations shown by the various schedules in that guide.

The operation, as I have testified to, as to a motor freight line is more or less typical of the other operation in Texas by common carrier trucks.

Cross-examination.

By Mr. Cook:

The statement just made that the bus operations between [fol. 432] Dallas and Houston is typical of the bus operation in Texas, generally, is subject to the limitation that on many roads where we have bus operations we have far less traffic, and others far more. The equipment varies con-

siderably, down to a point, on short runs, where I imagine you would have seven-passenger cars engaged in bus service.

I have no idea of the number of buses operating in Texas. Whatever number it is, there is a substantial variation in the size of equipment used and in the frequency of traffic, depending upon local conditions, volume or traffic.

The variation in respect to common carrier motor freight transportation over the State depends upon the density of population; between Dallas and Fort Worth, Houston and San Antonio, the bus and trucking operations are greater than in areas where there is now the density.

There is some variation in the equipment. I said that we carry an average load of 10,000 pounds. On the larger jobs we use ten tires; we have a few small four-wheel trucks that we operate on short runs in local service. On the smaller jobs with a less number of tires, we don't carry as much as our average load; we frequently carry under 7,000 pounds.

I know from actual observation that there are very many trucks operating in commercial traffic on the highways of Texas, I don't know about how many all told; I wouldn't say there are as many as 200,000 operating on the highways, [fol. 433] that includes every laundry truck and pickup truck around town. I don't know that that is true; I know it is a very considerable number.

I don't know how many common carrier truck lines there are in the State; they go in and out; I never have seen the figures. I don't believe that the Sproles Motor Company is more severely affected by the competition of the contract carrier trucks operated on the highways of Texas than from any other source. It is a substantial factor, but it is not our most serious competition.

I would not undertake to say that all trucks are as safe in operation as I have described our trucks to be.

Redirect examination.

By Mr. Rawlings:

(The Complainant Ed Sproles introduced in evidence a photograph, marked Exhibit 19, which is sent up as an original exhibit.)

This photograph represents a tractor semi-trailer unit, which makes what is commonly called a six-wheel combina-

tion. If you would nail a couple of boards over this opening here (indicating), you would have a truck. Outside of some few differences as to body, I would say that kind of equipment is what we generally use to transport freight, but that one is shown to be loaded with human cargo instead of freight; that kind of equipment could be used to transport [fol. 434] freight in the service that we would employ it.

I have seen such trucks as that represented by this picture. I don't know where the Sinclair Refinery is with reference to the City of Houston, I have never been out there.

A. C. NEWLON was thereupon called as a witness on behalf of the Complainants and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Francis:

I live at Houston. Exhibit No. 19 is a photograph of a bus that is operated out of the City of Houston and over the highways of Texas carrying passengers; it is designed to carry approximately 100 passengers. The average weight of a passenger is 150 pounds, about.

A good many trucks of that character are in service in Texas, not a great number but sufficient to handle the carrying of their employees.

Cross-examination.

By Mr. Cook:

I am branch manager of the White Company, of Houston, a truck company; we did not furnish the Sinclair Company [fol. 435] that particular truck. I have examined that particular truck; I counted the number of people in that truck in that picture. I say there is sitting room for a hundred. I have not checked up on trucks used in light service in the State, just observation. I have observed trucks used in like service in Corpus Christi, Dallas, and Fort Worth; they were of a size approximately of this character here. I presume the distance of movement was

about the same. The run from Houston to the Sinclair plant is about seven miles.

Redirect examination.

By Mr. Francis:

I have seen the passenger bus used by the Shell; it is an enclosed bus on four wheels. It runs about 18 miles out to its refinery; that is over a dedicated state highway.

I judge the number of passengers in the Shell bus to be around 42.

The complainants and interveners offered in evidence Texas State Highway Map and Railroad Map (Complainant's Exhibit No. 20) which is sent up as an original exhibit.

The complainants and interveners offered in evidence a transportation schedule of motor buses in Texas (Exhibit No. 21) which is sent up as an original exhibit.

[fol. 436] The Complainant offered in evidence a photograph of a motor passenger bus used by the Sinclair Refining Company for the transportation of passengers from the City of Houston to its refinery, about 10 miles from the City of Houston on one of the main highways.

The witness Cox stated that in point of construction the bus shown in the photograph is identical with many of the vehicles used by Ed Sproles and certain interveners for the purpose of transporting freight weighing in excess of 7,000 pounds; that said passenger bus of the Sinclair Refining Company would carry approximately 100 passengers, having a total net weight of approximately 15,000 pounds. The photograph was marked "Exhibit 19," and is sent up as an original exhibit.

The Complainant offered in evidence 3 photographs, Exhibits A, B, and C, the same being sent up as original exhibits.

The Complainant offered in evidence Exhibit No. 20-a, Order of the State Highway Commission of Texas relating to the issuance of special permits, as follows:

EXHIBIT 20-a

The State of Texas State Highway Department

Order

Re Permits for Operation of Superheavy or Oversize Equipment on State Highways

The Division Engineers of the State Highway Department are constituted the agents or representatives of the Highway Department in the matter of issuing permits for [fol. 437] the operation of super-heavy or oversize equipment over State Highways; all permits, before becoming effective, shall be approved by the Division Engineers in their respective districts.

Applications for such permits may be made to the county foreman of the Department in each county, or to the County Judge of each county, where such permit is desired; the county foreman or County Judge shall examine into the circumstances of such desired operation, load or oversize equipment, and if satisfied, shall issue a permit, which permit shall be by him transmitted immediately to the Division Engineer in that district for his approval or rejection, and such permit shall not become effective unless or until the same is approved by the Division Engineer.

Such permit, as is manifest by the Act of the Legislature authorizing or permitting the same to be issued is designed or intended for cases of emergency and necessity and not for a suspension of the law regulating the size, weight, or dimension, or load of vehicle to be operated on State Highways; therefore, permits for long hauls over State Highways should not be granted where there are other adequate facilities of transportation for the same, such as railroad transportation; and in such instances persons, firms or corporations desiring to operate same over State Highways should be directed to ship or transport the same to the [fol. 438] nearest or most practical point by such other means of transportation, and then apply for a permit to operate the same over the State Highways to its point of destination.

No permit should be granted in any instance where the condition of the highway, particularly its bridges and culverts, or drainage structures, over which it is intended to

operate such vehicle are not sufficient to sustain the said load or weight as the same is intended to be operated. The attention of all persons connected with the issuance of such permits is directed to the provisions of the statutes, which require that no permit be issued until the applicant for the same has filed with the State Highway Department a bond in an amount to be set and approved by the Department conditioned that the applicant will pay to the State Highway Department all damage which may be sustained to the highway by virtue of the operation of the equipment.

Therefore, county foremen and County Judges will not issue permits to become operative until the matter has been submitted to the Division Engineer and the bond as fixed and required by him is given to his satisfaction, and the fee required by law is paid.

Thereupon Complainants offered in evidence the following statement by Jno. F. Wallace, Secretary, State Highway Commission, as follows:

[fol. 439] OFFER IN EVIDENCE

Number of miles of Federal designated highways in Texas	13,250.14
Number of miles of Federal Highways that have received Federal Aid, as of April 30, 1931	7,711
Approximate State Maintained Highway mileage in Texas, as of September 1, 1930	18,511
Approximate mileage of Public Highways in Texas	183,000

The following is approximate mileage of designated State highways for receiving State and Federal aid.

Statement Showing Mileage by Types of the State Highways as of May 1, 1930

Type		Mileage
0	Unimproved	6,170.83
1	Grading and structures	2,097.33
2	Sandy clay surface	260.40
3	Gravel surface	1,818.68
4	Caliche or disintegrated limestone	263.72
5	Shell surface	287.77

Type		Mileage
6	Macadam surface (including crushed rock or stone)	56.11
[fol. 440]		
7	Iron ore soil surface	807.49
8	Single bituminous treatment on shell	51.74
9	Single bituminous treatment on caliche or disintegrated limestone	221.06
10	Single bituminous treatment on iron ore soil	70.46
11	Single bituminous treatment on gravel	1,477.49
12	Single bituminous treatment on macadam	235.09
14	Double or triple bituminous treatment on caliche or disintegrated limestone	75.27
15	Double or triple bituminous treatment on iron ore soil	278.43
16	Double or triple bituminous treatment on gravel	573.02
17	Double or triple bituminous treatment on macadam	425.75
18	Limestone rock asphalt on gravel	571.26
19	" " " " macadam	212.23
20	" " " " concrete	53.57
21	Two course rock asphalt on gravel	73.11
22	" " " " " macadam	5.15
23	" " " " " concrete	11.23
24	Hot mix limestone rock asphalt on gravel	38.40
[fol. 441]		
25	Hot mix limestone rock asphalt on macadam	60.86
26	" " " " " " concrete	22.45
27	Asphalt macadam on gravel	96.92
28	" " " macadam	307.64
30	Asphaltic concrete on gravel	34.50
31	" " " macadam	150.90
32	" " " concrete	1.19
33	Sheet asphalt pavement on concrete	11.70
34	Concrete pavement—plain	225.59
35	" " reinforced	1,222.67
36	Brick on macadam with concrete shoulders	7.77
37	" " " " non-rigid "	20.98
38	Brick on concrete	23.77
		18,322.58

As heretofore stated, there are introduced in evidence and marked "Exhibit 17," a summary of the highway laws relating to motor vehicles as adopted by various states in the United States. Without copying into the record all of said laws, they are well illustrated by those of the following States, to-wit, Alabama, 16,000 pounds gross on 1 axle; Arizona, 22,000 pounds gross on 4 wheels; 23,000 pounds when equipped with 4 cushion wheels; 34,000 pounds on 6 or more wheels; 18,000 pounds on 1 axle; 9,000 pounds on 1 wheel; 600 pounds per inch width of tire for rubber tires and 500 pounds per inch width of tires for metal tires; [fol. 442] California, 22,000 pounds gross on 4 wheels; 34,000 pounds gross on 6 or more wheels; 18,000 pounds on 1 axle; 9,000 pounds on 1 wheel; vehicles first registered after Jan. 1, 1930, limited to 17,000 pounds on 1 axle and 8,500 pounds on 1 wheel; solid rubber tires, 600 pounds per inch (base) width of tire; metal tires, 500 pounds; Colorado, 30,000 pounds gross on 4 wheels; 40,000 pounds gross on 6 or more wheels where axles are at least 40 inches apart; 20,000 pounds on 1 axle; 800 pounds per inch width of tires; Georgia, 22,000 pounds gross on 4 wheels; 17,600 pounds on 1 axle; 800 pounds per inch width of tire; Carriers for hire, 12,500 pounds weight of load on vehicles or combinations with two or more axles; 6,350 pounds weight of load on vehicles with 1 axle; Illinois 24,000 pounds gross on 4 wheels; 40,000 pounds gross on 6 or more wheels if axles are not less than 40 inches apart; on 1 axle, 16,000 pounds; 800 per inch width of tire; gross weight of any trailer or semi-trailer, 32,000 pounds; Massachusetts, 30,000 pounds gross on pneumatic tires; 28,000 pounds gross on solid tires; 40,000 pounds gross on a semi-trailer unit; 40,000 pounds gross on 3 axles on routes designated as through routes by Commissioner of Public Works; 800 pounds per inch width of tire; North Carolina, 20,000 pounds gross; 600 pounds per inch width of tire; Utah, 34,000 pounds gross on 3 axles; 26,000 pounds gross on 2 axles; 18,000 pounds gross [fol. 443] on 1 axle; West Virginia, Major Roads: Metropolitan Areas: Pneumatic or solid tires; wheel weight, 11,200 pounds gross; axle weight, 22,400 pounds gross; Industrial Areas: Pneumatic tires: Wheel weight, 9,000 pounds gross; axle weight, 18,000 pounds gross; solid tires, 80% of above; Agricultural Areas: Pneumatic Tires: Wheel weight,

8,000 pounds gross; Axle weight, 16,000 pounds gross; Solid tires, 80% of above; Secondary Roads; Pneumatic tires: Wheel weight, 8,000 pounds gross; Axle weight, 16,000 pounds gross; Solid tires, 50% of above.

The summary of the laws aforesaid showed that no state in the Union undertook to regulate the net load of commercial motor vehicles.

[fol. 444] J. E. Lewis was thereupon called as a witness on behalf of the Complainant and Interveners and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Brown:

My name is John E. Lewis. I live in Chicago, Illinois. I am engaged in sales work with the Mack International Motor Truck Corporation and special work that has to do with figuring chassis equipment for special operations. I have been with that company something over the past ten years. During that period I have had occasion to be familiar with the weights of chasses, the weights of bodies, and other matters of automobile design; very much so. My company manufactures what are commonly called motor buses. I am familiar with the element of weight entering into motor buses, both those made by my company and those of other manufacturers. The weight, unloaded, of a 33-passenger bus of the type ordinarily used in inter-city passenger transportation is approximately 22,000 pounds; so when they carry even one passenger they exceed the weight allowed by the Texas statute before the present statute was passed. The weight of such bus loaded to capacity would be approximately 28,000 pounds. The weight of a vehicle capable of safely carrying a pay load of 14,000 pounds is between 13,500 to 16,000 pounds. So a vehicle loaded with that amount of load would have a gross weight of 27,500 to [fol. 445] 30,000 pounds. Such equipment designed to carry safely 14,000 pounds of gasolene would weigh at least 11,000 pounds. The tank would weigh 8,000 pounds approximately. The total weight of the truck would be 19,000 pounds empty and 33,000 pounds loaded. The weight of a truck capable

of carrying 7,000 pounds is about 11,300 pounds. The weight of the truck together with its load would be 18,300 pounds.

Cross-examination.

By Mr. Cook:

The trucks manufactured by my company range in size from the one-ton truck to the largest made.

On our trucks designed to carry 7,000 pounds we use an 8.25 balloon tire. We use four tires on the two back wheels, or two tires to each wheel, giving each wheel a tire spread of 16½ inches. On the front wheels we use only one tire to each wheel.

I have observed the equipment used for the hauling of cotton in Texas over the highways and my impression is that it is pretty light equipment for doing the work.

My company furnishes specifications concerning weights of chasses and of bodies for particular services. There is a book published that furnishes in detail such information with reference to our trucks and that is available to all its representatives. The book is a little bit too voluminous [fol. 446] to get out to the public. In a way, it is generally the practice of other manufacturers to have that information open and available to the general public.

Examination by the Court:

There is a general average where all trucks distribute their load between the front and the rear axles in pretty much the same ratio. The proportion of the weight between the front and rear can be varied by changing the wheel bases and the position of the body on the chassis.

A number of states permit a maximum axle load of 18,000 pounds or a 9,000-pound wheel load, as well as a limiting gross load of 24,000 or 28,000 pounds, or 36,000 pounds. Now, if we are figuring on an operation that has a limiting gross weight, say of 22,000, but a limiting axle weight of 18,000, the object would be naturally to get your maximum load, that is, use all of your 22,000 allowable, without going over your 18,000 on your rear axle. With a 22,000 limit gross, that would give you 18,000 on your rear axle and 4,000 on your front axle, which is a very easy thing to figure out.

Where you have a 28,000-pound permissible gross and you are limited to 18,000 on your rear axle, then we want to load that truck so that its final gross load will be 18,000 on the rear axle and 10,000 on the front axle. We design this truck with a certain wheel base and a certain body location so that [fol. 447] when that body is evenly loaded we will then have a final load of 18,000 on the rear axle and 10,000 on the front axle, or a load of 9,000 pounds on each rear wheel and a load of 5,000 pounds on each front wheel. The states, in other words, in making regulations as to loads to be carried rely more or less upon the practice of manufacturers of trucks to build them so that their loads will be distributed properly. The general practice is to so construct trucks that they will carry 70 per cent of their loads on the rear axle and 30 per cent on the front axle. That was established before states made laws with reference to them. I would say that ten years ago the laws were made with the idea that they would fit the general specifications of the truck manufacturers. Since that time the truck manufacturers have been following and adapting themselves to the particular state laws.

There is a wide variation in the gross loads of trucks of 7,000 pounds carrying capacity, their gross loads being dependent upon the class of bodies and the class of chasses used. I would say they would vary 3,000 or 4,000 pounds or more, even, than that.

If a system of regulation were adopted that provided for a gross weight, and no more, we would not have to bother about the axle, spread of tires, or anything like that. The truck manufacturers and sellers would have a problem stated which is practically complete and they would work [fol. 448] out all these loads to the different axles and the different tires. Because of the different materials that might be used in the making of the trucks leaves room for a wide variation in the weight of the trucks. The fixing of a net weight does, however, within certain limits, determine the amount of the gross weight.

Cross-examination (cont'd).

By Mr. Cook:

I discussed with the Court a variation in truck weights in response to a law based on net weight of load and I said

there would be a substantial variation in weight of trucks; that is highly possible. I do not agree that it is a fact that with the standard construction of our trucks, related as I have testified, to specific capacities, there is a very wide variation in actual use in regard to the loads imposed upon those trucks. The purchase price of a truck would have something to do with a person's being tempted to vary his load to get the most out of his haul. In certain operations trucks can be overloaded 50 per cent of their rated capacities and apparently they stand up all right. I know of particular instances where they have been in service over a period of years. You can do one thing to a chassis, but you are limited on your times. Accepting the common practice today, using pneumatic tires, that limits you definitely pretty well as to gross loads that you will finally put on that vehicle. Any pneumatic tire has a certain load capacity [fol. 449] guaranteed by the manufacturer. Those load capacities vary with the different sizes of tires.

I have not observed these light Chevrolet trucks that were rebuilt for the purpose — carrying as many as 24 or 25 bales of cotton on the highways. If it is true and I knew the sizes of the tires on the vehicles I could answer whether that is a very substantial overload. Chevrolet trucks can have different sized tires.

Examination by the Court:

To say that a one-ton truck loaded with 10,000 pounds is all right would be stretching your factors of strength pretty much. The way it is working to today, the chassis factor is capable of great stretching and the tire factor determines the whole thing. The tendency then would be to build very light trucks and very heavy tires to carry loads, to this extent: That you are making a chassis for a particular load to carry favoring certain limitations in your body weight. Now, ordinarily, we have a gross weight to limit or to work to, or, in the smaller sizes where the gross weights do not limit, the idea is to get as much pay load on any given sized tire. A particular chassis is limited to two or possibly three different sizes of tires. You could not put any sized tire on any particular chasis; that would be impossible. There is, however, a sort of relation between the chassis and the tires.

[fol. 450] R. G. Hickok, under the stipulation set forth herein, testified by affidavit:

That he is a resident of Oklahoma City, Oklahoma, and that he is the general manager of the Yellow Cab Transit Co., a corporation, one of the intervenors in the above entitled cause.

That he is familiar with the operation of said corporation in its motor truck service in the states of Missouri, Kansas, Oklahoma and Texas; that he has been engaged in the business of transporting freight and passengers for hire by motor bus and trucks for approximately ten years.

That the Yellow Cab Transit Company operate their motor freight line in the state of Texas as an interstate common carrier; that they do not transport any commodities within the state of Texas which originate in Texas and are destined to points in Texas; that the only commodities transported by this intervenor originate outside of the state of Texas, destined for points in Texas, or commodities originating in Texas destined for points beyond the state of Texas.

That in December, 1930, it received a certificate or permit from the Railroad Commission of the State of Texas, authorizing it to engage in the transportation of freight for hire by motor truck, over a designated route from the Oklahoma-Texas state line on U. S. Highway No. 77 (commonly known as the Red River-Gainesville Bridge, to the [fol. 451] city of Houston, via Gainesville, Denton, Fort Worth, Dallas, Corsicana and Huntsville; that at the time of the issuance of said certificate or permit, it invested in motor truck equipment approximately Sixty Thousand Dollars ($60,000.00) for the purpose of complying with the rules and regulations promulgated by the Motor Bus Division of the Railroad Commission of the State of Texas, and to serve the shipping public.

Affiant further states that its total operation in the state of Texas is approximately three hundred and thirty-one (331) miles, and that all of the freight transported by this carrier from the state of Texas originates either in Houston, Dallas or Fort Worth, and that all freight transported into the state of Texas is received by this carrier at points in Missouri, Kansas or Oklahoma; that the valid laws of

the state of Texas enacted prior to the enactment of House Bill No. 336 allowed this carrier to transport freight upon the equipment purchased as aforesaid in a gross load of twenty-two thousand (22,000) pounds per vehicle, and that it operated a combination of vehicles of a gross load of sixty-six thousand (66,000) pounds, carrying a net cargo load of approximately thirty-one thousand (31,000) pounds.

In this connection, affiant states that as an interstate carrier, or a carrier of freight for hire, it is allowed by the existing laws of the states of Missouri, Kansas and Oklahoma, to carry upon its equipment sixty-six thousand [fol. 452] (66,000) pounds gross or a cargo load of approximately thirty-one thousand (31,000) pounds, and that if the purported law known as House Bill No. 336 is sustained, it will be necessary for this interstate carrier to operate its equipment from Kansas City, Missouri, or Oklahoma City, Oklahoma, or other points upon its line, outside of the state of Texas, to the Oklahoma-Texas state line with the cargo of thirty-one thousand (31,000) pounds, and unload all of the cargo except seven thousand (7,000) pounds, and then transport the seven thousand (7,000) pounds net load to the city of Houston.

Based upon my experience in the transportation business, it would be highly impractical to operate a motor freight line for hire from the city of Houston to the Oklahoma-Texas state line, carrying a net cargo of seven thousand (7,000) pounds, and that the rates which would necessarily have to be charged by this carrier, would make it prohi-tive to the shipping public, and would thereby be an additional burden upon the movement of interstate commerce.

That the motor equipment used by this carrier is of the latest and most modern type. It is equipped with pneumatic rubber tires, and the combinations are connected together so that there are no side sway in the semi-trailer or full trailer; that each vehicle of the combinations are equipped with automatic air brakes; wheels of said units and the construction of the cargo compartments insure a [fol. 453] safe distribution of the net load carried so that each axle of said unit carries not in excess of sixteen thousand (16,000) pounds, and that based upon the wheel load with the tire equipment, it is five hundred (500) pounds to the tractional inch of tire spread, and the vehicles con-

structed as hereinbefore described do not cause any damage to the highways over which they traverse.

Complainant and Interveners (except Intervener W. T. Stevens) rest.

[fol. 454] TESTIMONY INTRODUCED BY THE INTERVENER W. T. STEVENS

Intervener W. T. Stevens offered the following testimony in affidavit form, there being no cross-examination of the witnesses, but same was offered under the stipulation that such testimony would have the same effect as though the witnesses were present in person testifying in court.

CHAS. H. TIPS stated: That he is a resident citizen of Houston, Harris County, Texas, and together with his brother, J. C. Tips, is engaged in the business of selling trucks and is doing business under the name of Brockway Indiana Truck Sales Company. That by reason of said business, he is constantly upon the highways of the State of Texas and more particularly upon the highways in South Texas, and is conversant with the character of trucks that are operated upon the highways, together with their ownership and other trucks operated by their employees. That he knows that various oil companies, including the Humble Oil Company, Gulf Company, The Texas Company, Pure Oil Company and Houston Oil Company, own fleets of trucks, the exact number thereof not being known to him, but that the same are in an aggregate number in excess of five hundred (500) which they operate over the highways of the State in transporting commodities belonging to them and which said trucks are operated by their own employees. That said trucks are various types and capacities, the aver-
[fol. 455] age truck being of two and one-half (2½) ton capacity, but that some are as large as five (5) ton capacity. That said trucks are daily and continuously being operated by said companies over the highways of the State of Texas in the transportation of products belonging to them and that they form a material portion of the highway traffic traversing the highways in certain portions of the State.

Affiant further says that he knows of a considerable number of trucks being operated by companies selling build-

ing material and other companies selling dairy products, and still others engaged in the ice-cream business, wherein their respective said products are being transported over the highways of the State of Texas and which said trucks are operated by said employees of said companies. That said transportation forms a material portion of the traffic on the highways of certain parts of the state.

S. RUDDELL and H. C. SHEARER stated: That they are employed in the city of Houston by the Maritime Committee of the Houston Cotton Exchange and have been so employed for sometime; that the said Ruddell is chief inspector of cotton for said Maritime Committee and the said Shearer is an inspector of cotton; that they as such inspectors come in contact with cotton daily and in their capacities as such inspectors see and observe many hundred thousand bales [fol. 456] of cotton; that on September 3, 1931 at the request of W. B. Bates, attorney, they went to the Exporters Warehouse & Compress Company for the purpose of measuring and ascertaining the cubic contents or volume of flat or uncompressed cotton; that they measured 120 bales of such cotton, taking the cotton as they came to it without any selection whatever and they attach hereto as Exhibit A the respective measurements of such 120 bales of cotton and the cubic contents shown thereby of each bale; that each and every bale of said cotton was in excess of 31.4 cubic feet in bulk and that the average of said 120 bales is 33.66 cubic feet per bale; that said 120 bales of cotton represent a fair run of all cotton which is concentrated at the Port of Houston; that in their business they come in contact monthly with many thousand of bales of cotton, said cotton being grown and ginned in every section of the State of Texas and being a large portion of the cotton grown in the state of Texas; that based upon their experience and the measurements they made of cotton from time to time these affiants say that they are of the opinion you would not find one bale in 5000 as it comes from the gin thirty cubic feet or less in bulk.

(Exhibit "A" attached to the foregoing affidavit is as follows:)

EXHIBIT "A"

[fol. 457]

Length	On bands width	Thickness	Length	On bands width	Thickness	Length	On bands width	Thickness
53.....	40	28	54.....	41	27	54.....	38	26
54.....	42	26	54.....	43	27	55.....	42	27
54.....	41	27	54.....	42	28	55.....	39	27
54.....	40	27	53.....	40	27	54.....	37	26
54.....	40	27	55.....	42	27	55.....	36	26
55.....	39	27	54.....	41	27	55.....	42	27
55.....	38	27	54.....	40	26	55.....	39	27
54.....	36	28	54.....	40	27	55.....	40	27
53.....	41	27	55.....	42	26	55.....	39	27
55.....	40	28	54.....	41	26	54.....	41	26
54.....	41	26	54.....	41	26	54.....	39	26
54.....	41	27	54.....	42	26	54.....	40	27
54.....	42	27	54.....	41	26	54.....	40	28
54.....	42	27	54.....	40	26	54.....	39	27
54.....	42	27	54.....	41	26	55.....	39	27
54.....	40	26	54.....	41	27	55.....	41	27
54.....	40	28	54.....	40	26	54.....	39	28
54.....	41	26	54.....	41	27	54.....	37	26
55.....	39	26	55.....	42	26	55.....	41	26
54.....	39	27	54.....	38	27	54.....	39	27
54.....	37	27	54.....	40	26	55.....	39	26
54.....	41	28	54.....	39	28	56.....	38	27

[fol. 458]

54.....	42	27	54.....	40	28	54.....	41	27
54.....	42	27	54.....	42	26	54.....	41	27
53.....	42	26	54.....	39	26	55.....	41	27
55.....	41	27	54.....	42	26	56.....	40	28
54.....	40	27	54.....	41	27	55.....	39	27
53.....	43	26	54.....	38	26	54.....	40	27
54.....	42	28	54.....	39	26	55.....	41	26
54.....	41	27	54.....	42	26	54.....	41	27
55.....	40	28	54.....	39	28	54.....	39	27
55.....	42	26	56.....	39	27	54.....	39	26
54.....	42	27	55.....	37	26	54.....	41	26
55.....	40	27	55.....	40	27	54.....	35	26
56.....	42	28	54.....	41	27	54.....	39	28
56.....	40	27	54.....	38	27	56.....	39	28
55.....	36	26	54.....	39	26	55.....	39	26
54.....	42	26	54.....	36	27	55.....	41	27
54.....	40	27	56.....	42	26	55.....	40	27
54.....	37	27	55.....	38	27	55.....	39	27

J. M. JOHNSON stated: That he is a resident citizen of Houston, Harris County, Texas, and is vice-president and assistant general manager of Houston Compress Company, [fol. 459] engaged in warehousing and compressing cotton. That by virtue of his position, he has become thoroughly familiar with the weights and sizes of the various types of bales of cotton, both uncompressed and compressed.

That the customary and average square bale of uncompressed cotton is approximately thirty-six (36) cubic feet in size and that every square bale of uncompressed cotton is larger than thirty (30) cubic feet in size. That the average and usual square bale of compressed cotton, compressed to a standard density, is approximately twenty-three (23) cubic feet in size and that every square bale of cotton of a standard density compression is less than thirty (30) cubic feet in size.

J. C. DARK stated: That he is a resident citizen of Houston, Harris County, Texas and is connected with White Truck Lines, whose headquarters and principal place of business is in Houston, Harris County, Texas. That the said White Truck Lines are engaged in the transportation of commodities over the highways of the State of Texas as contract carriers and that a considerable portion of the commodities transported by said lines is cotton. That by reason of his position and connection with the White Truck Lines he has traveled extensively over the highways of the State of Texas and has become familiar with the character of commodities that are transported over the public highways and has likewise become thoroughly acquainted [fol. 460] with the cost of said transportation, the profit therein and the rates that have to be charged in order to be able to make a profit.

That he knows of no commodity now being transported over the highways of the State of Texas fitting and conforming to the description of the commodity referred to in subdivision (f), Section 3 of House Bill No. 336, passed by the Legislature of Texas in 1931, which said description reads: "contained, boxed or bound in any container, box or binding containing more than thirty (30) cubic feet and weighing more than five hundred (500) pounds", other than square bales of uncompressed cotton. That every square bale of uncompressed cotton contains more than thirty (30) cubic feet and, with but very few exceptions, weighs more than five hundred (500) pounds. That if there is any other commodity now being transported over the highways of the State of Texas, other than square bales of uncompressed cotton, coinciding with said description, he is unaware of it.

Affiant further says that as a part of his duties with said White Truck Lines, he has made a careful check and estimate of the cost of transportation of thirteen (13) and fourteen (14) square bales of uncompressed cotton in an effort to see if such a number of bales per load could be profitably transported, and after making a careful analysis [fol. 461] and audit thereof, he found that by transporting said square bales of uncompressed cotton in thirteen (13) to fourteen (14) bales per load, instead of twenty (20) to twenty-two (22), as has been heretofore done by said White Truck Lines, and by charging the same rates charged by railroad companies, no profit whatsoever would be made, but to the contrary, said business would be conducted on a losing basis.

Affiant further says that he has discussed the matter of transporting said uncompressed square bales of cotton with other owners and operators of truck lines, and that without exception, they arrive at the same conclusion with reference to the impossibility of operating trucks restricted to thirteen (13) or fourteen (14) bales per load on a paying basis, and all reached the conclusion that the operation of their truck lines, if restricted to said number of bales, would have to be discontinued.

Affiant further says that his company has at this time about five hundred (500) square bales of uncompressed cotton waiting to be hauled from Dallas, Clarksville and Victoria to Houston, Harris County, Texas, but the same are not being transported by him, by reason of arrests that have been made of his drivers.

NILS NELSON stated: That he is a resident of Wharton County, Texas, where he has resided for many years, that [fol. 462] he is engaged in farming, owning a farm of about eight hundred and eighty acres, the larger portion of which is planted in cotton, that his farm is located two miles west of El Campo in Wharton County, Texas; that during the cotton season of 1930 he produced on said farm 486 bales of cotton and 436 bales thereof were transported by motor vehicle over the highways of the State of Texas to Houston; that affiant contracted with private carriers for

the transporting of said cotton to Houston by truck, among whom were Payne & Smith and Vick Brothers of El Campo, and that he paid them for such transportation at the rate of $1.00 to $1.25 per bale; that said cotton was hauled in loads of 20 to 24 bales per truck;

Affiant further says that beginning with the cotton season of 1927 and during each year thereafter he has had cotton produced by him transported by motor vehicle over the highways of this state to Houston; that during every one of said years he had from 250 to 500 bales of cotton transported in this manner and that during said several years not one single bale of said cotton caught fire nor did any of said cotton spill upon the highways of this state while the same were being transported.

Affiant further says that the railway rate for transporting cotton from El Campo to Houston, Harris County, Texas, during the beginning of the season in 1930 was 53 [fol. 463] cts. per 100 and during the latter part of said season the rate was $1.50 per bale, that in transporting said cotton by rail to Houston, the same must be conveyed from the gin to the loading station and that this fact occasions an expenditure of around 25 cts. per bale and at no time has the price thereof been less than 20 cts. per bale; that in having said cotton transported by motor vehicle to Houston, the same is loaded on the truck at the gin and promptly transported to Houston and there immediately unloaded—all of which is done for the price of $1.00 to $1.25 per bale, as above stated; that this affords to affiant a quick transportation of his cotton so that the same can be sold on the market at Houston within a few hours after it leaves the gin; that to transport same by rail would mean to affiant not only a heavier expense insofar as the rate and handling charge is concerned, but also a delay of from two to three days in delivering same to Houston and sometimes even a longer delay;

Affiant further says that all of his cotton has been transported to Houston in an uncompressed state and that the same must be transported in said form for the reason that there are no compresses around El Campo and none between El Campo and Houston.

Affiant further says that he has planted six hundred acres in cotton this year and within a short time will be ginning

cotton raised on his farm and that it is his desire to again [fol. 464] transport cotton to Houston by truck as he has done in the past several years.

J. W. KUBELA testified substantially the same as the testimony of Nils Nilson appearing above.

W. A. WEEKS stated: That he resides in the City of Houston, Harris County, Texas; that he is now engaged in the trucking business, that during the last eight years he has been actively engaged in hauling and transporting cotton and other commodities and articles of commerce over the highways of this state either for himself or other persons; and during all of such time up to the month of December of last year he continuously operated and drove a truck either for himself or others in transporting said commodities and since said last December he has owned and had operated several trucks, the operation of which he has supervised; affiant further says that during this eight years period he has himself transported on trucks that he has driven over the highways of this state many thousands of bales of cotton in loads averaging twenty bales per load, and that he has seen transported over the highways many other thousands of bales of cotton, that he transported of last year's crop of cotton on trucks owned and operated by him approximately 2500 bales; that during all of this time he has never spilled or had any cotton spilled upon the highways or any cotton burned, damaged or injured in any [fol. 465] manner by fire and that during said time he has never had a wreck or collision of any kind or character either by the truck he has driven himself or the trucks that he has owned and had operated by other persons and that he has never had a claim of any kind or character filed against him for any damage to personal property or otherwise on account of injuries caused by the transportation of such commodities; that while affiant during the past year transported or caused to be transported by his trucks some 2500 bales of cotton, averaging about twenty bales per load or an aggregate of 125 loads; that he hauled, transported or

caused to be hauled and transported by his said trucks last year over the highways of this state some 500 loads of other commodities including general merchandise, groceries, hardware, lumber, acetylene gas, oil products, roofing materials, packing-house products and practically every other article of commerce produced or used in this state; that affiant's trucks are 96 inches in width,—the maximum allowed by law,—and some 35 feet in length including the combination trailer attached; that he uses the identical trucks and equipment in transporting general merchandise, hardware, groceries, and other commodities that he uses in the transportation of cotton; some of these trucks, all of which were identical, were being operated as common carriers and others as private contract carriers;

[fol. 466] Affiant further says that the character of the material that is being hauled has nothing whatever to do with the injury to, destruction or deterioration of the highways but that such depends entirely upon the wheel load and the character of tire used, and of necessity must depend upon such;

Affiant further says that the hazards and dangers of truck transportation to the public upon the highways is in no way related to the character of material being transported in the truck but depends entirely upon the rate of speed and the manner in which the truck is being driven, the width and length of the vehicle; the only exception to this, if there is any exception is in the case of certain materials, like pipe, lumber and other extremely lengthy articles which protrude far beyond the rear end and rear light of the truck so that there is nothing to give the public warning at night—the extent of these protruding ends; this danger could be remedied by requirement of lights to be displayed at the end of the protruding materials; this danger however does not apply in the transportation of cotton, as on account of its very nature could not be loaded so as to protrude in such a manner and is not loaded so as to protrude.

Affiant further says that the 500 loads of other commodities that he has hauled or caused to be hauled upon the [fol. 467] highways with his trucks during the past year average about 9000 pounds per load; that being of the same width and length as each of the 125 loads of cotton that he

hauled over such highways it of necessity presented just as much danger and hazard to the public as the loads of cotton being so hauled;

Affiant further says that while he has never had a truck turned over with cotton or any other commodity in all of his experience in trucking, yet, it is his opinion that trucks loaded with cotton are less likely to turn over than the average load of equal weight made up of other commodities; that cotton has a lot of flat surface and the bales have a tendency to attach themselves to each other and will not slip and slide nor careen to one side and therefore will not shift the weight from one side of the truck to the other side as most commodities would have a greater tendency to slip and slide and not remain rigidly in place as cotton has a tendency to do.

Affiant further says that he has never heard of any person or property being injured, damaged or destroyed by reason of any cotton being spilled upon the highways while being transported by trucks or on account of cotton being burned while being transported by truck although he has been constantly in and over the territory where cotton has been [fol. 468] transported over the highways during the past eight years;

Affiant says that there are hundreds of passenger busses being operated over the highways of the State of Texas daily; that he understands that the Highway Department of this state showed the number to be in excess of 800 and that during the year 1930 carried more than four million passengers for distances ranging from 15 to several hundred miles; this in affiant's opinion is an aggregate weight far in excess of the weight of all cotton that was being transported during the year 1930 over the highways of this state to market in loads in excess of 10 bales per load; affiant further says that a large part of these busses are more than 100 inches in width and many of them are as much as 103 inches in width; that these busses run at a far greater speed than the average cotton truck and that on account of such speed and the extreme width are in his opinion far more dangerous to the traveling public upon the highways than the average cotton truck or the average truck carrying other commodities.

F. C. WITHERSPOON stated: I have been buying, selling and exporting spot cotton for about thirty years.

It has been customary all those years and long before for Texas cotton in both the domestic and the export trade to weigh to the average more than 500 pounds to the bale. [fol. 469] No year has the average bale of the Texas crop failed to exceed 500 pounds. In 1920 the average was 523.0; in 1920, 520.7. The average weight of the bale for the eleven year period—1920-1930—was 516.09 pounds. For the period 1906-1920 the average was 521.3 pounds.

Therefore, all contracts for purchase, sale and export of Texas spot cotton are and have long been based on 525 or 530 pounds to the bale, with a permissible variation of 5% above or below. If a purchaser, for illustration, buys 100 bales of spot cotton, the contract is made on the basis of 52,500 pounds, and the weight may vary only 5% above or below. If it varies above or below that weight more than 5% then the cotton is subject to a penalty. This system of buying and selling Texas spot cotton has existed in substantially the same form for more than a quarter of a century.

This system has, no doubt, grown up and become established because about 500 pounds was the most convenient weight for the physical handling of cotton. Gin boxes at the cotton gins became standard in size to hold approximately that weight of loose cotton. The gin box, in the process of ginning and removing the seed, linters, and foreign matter from the seed cotton, becomes filled with loose cotton. The loose cotton is then pressed and bound. For ordinary cotton the result will be a bale weighing from around 475, sometimes less, to about 535 pounds, sometimes [fol. 470] more. The variations above or below will depend upon particular conditions. These conditions will appear later herein.

It would result in a general disruption of the domestic and export business for gins to try to gin cotton to make it weigh less than five hundred pounds per bale. This is so for the following reasons:

(1) Seed cotton is usually carried to the gin in a wagon or truck, and the bed is constructed in size to hold about 1500 pounds of seed cotton. This load is ginned into a bale. This bed load is expected to gin out from about 475 to about

525 or more pounds, or a bale. If it is attempted to have a bale of less than 500 pounds, the difficulty would be that in loading the unfilled bed, a guess would have to be made on how much the load was going to gin out. If, in ginning, it was estimated by the ginner that the bale was probably going to weigh more than 500 pounds, then the excess cotton would have to be taken back to the farm or unloaded separately at the gin. Each man's cotton, whether he has a bale or many bales, is always ginned of itself and not mixed with other people's cotton. The practice is for bed full of seed cotton to be ginned into a bale.

(2) If it were required to gin cotton to less than 500 pounds per bale, it would require the setting aside and [fol. 471] changing of all the rules governing transactions in spot cotton in the State of Texas for export.

This is true because nearly all the export markets to which Texas cotton goes have and have long had rules governing the weights of Texas cotton. They call generally for an average of 530 pounds per bale, with a permissible 5% variation above or below. Not only so, but all cotton associations in Texas have and have long had similar rules on the subject, with unimportant variations. Therefore, the long established basis of trading in spot cotton would be disrupted.

(3) A ginner trying to make a bale or less than 500 pounds would find it impossible to keep the weights under 500 pounds without necessarily making a vast number of bales of less than 450 pounds, which bales are subject in domestic trade to a dollar per bale penalty and to a penalty in the export trade if the average be less than the minimum weight and the market price has advanced, or if the average weight be more and the market price has declined. This penalty became firmly developed in the cotton trade because of the necessity in commercial usage of having the bale of cotton at a fairly uniform weight, so that in selling cotton or reporting upon cotton, a practice would exist as to what a bale of cotton meant. In the futures or bedging market a bale of cotton means not less than 500 pounds.

[fol. 472] (4) The weight outturn of a wagon or truck load of seed cotton brought to the gin in the customary sized bed containing approximately 1500 pounds of seed

cotton to be made into a bale will vary considerably from that of another load of seed cotton of the same weight and volume, also to be made into a bale, because of the following:

(a) The two loads may greatly differ in the amount of seed contained in them, due to the quality of the cotton;

(b) The trash and foreign matter contained in the loads, which has to come out in ginning, will vary widely;

(c) The difference in quality of the fibre will vary widely, some fibre being long, and some short. The result is a considerable variation in the lint ginned from the load, and which, of course, will affect materially the weight of the bale.

(d) All gin boxes in which the bale is pressed are uniform in size, and a gin box full of the usual cotton, after having gone through the gin, will press to about 500 pounds, with about 5 per cent variation above or below that weight. This, however, will vary considerably. If the ginner, in order to try to make a bale of less than 500 pounds, does not fill his gin box full, then he is making a guess which will be affected by errors with respect to the quality of cotton he is ginning, the seedy nature of it, the amount of foreign [fol. 473] matter in it, the staple of it, and the extent of moisture in the cotton. Therefore, if he must have a bale weighing less than 500 pounds, he will have a small variable limit before subjecting the bale to penalty for under-weight, whereas a bale of cotton may weigh more than 600 pounds with no penalty. It is only a matter of common sense to know that nobody could look at a gin box of loose cotton and guess with any uniform accuracy within 25 or 50 pounds of what it would weight when baled. It would be impossible to do so of a ginned bale, much less a loose one in a gin box.

(5) Whether cotton is ginned to a weight of more or less than 500 pounds, the bagging, ties and ginning must be paid for by the owner of the cotton. This cost will increase proportionately to the reduction in the weight of the bale. If it were attempted to make bales of cotton weigh less than 500 pounds, the additional cost of bagging, ties and ginning would be increased to the owner approximately ten per cent.

(6) In the nature of the business, there must be substantial uniformity in weight of bales and all ginners have

long followed a common practice in that respect. Any changed practice along that line would have to be followed by all ginners. With the fixed nature of the domestic and export trade and the fixed existing equipment of all cotton gins, the thought of making all bales of cotton weigh less than 500 pounds is more than far-fetched.

[fol. 474] It would be impossible within any reasonable time to bring about such a change in the cotton trade. There is no reason or demand for it. It would be impossible and thoroughly impracticable were it possible.

(The foregoing testimony of the witness F. C. Witherspoon was corroborated by twenty-six (26) officials of various firms engaged in the cotton business, all of which witnesses testified that they had been engaged in said business for many years and that the testimony given by the witness Witherspoon was true and correct.)

W. L. Hancock stated: I am the chief engineer for the Murray Company. On the 27th day of August, 1931, I made an affidavit upon the request of certain parties to the effect that the type of cotton gin turned out by the Murray Company has a gin box, packing machinery and power plant of such construction as to pack and bale approximately 500 lbs. of cotton in what is known as the gin bale in a package containing not more than 30 cu. ft.

Since making the aforementioned affidavit, I have given this matter further consideration and find that in order to prevent possible misconstruction, it is necessary for me to enlarge somewhat on my previous statement.

The inside dimensions of the gin box manufactured by our company are 27x54x114 and it is true that when 500 lbs. of lint cotton is pressed the block runs up to within 31 [fol. 475] ins. of the follow block which, before expansion would make a bale of the dimensions of 27x54x31 ins., which would make a package of less than 30 cu. ft.

The fact is, however, that on account of the resiliency of cotton and the impossibility of fastening the bands so that they will hold firmly at 31 inches, there is certain and unavoidable expansion some of which takes place immediately

upon the bale being released from the machinery and further expansion taking place as the fiber straightens out and this latter process continues for 24 hours or more.

The result of this natural and unavoidable expansion is, that the bale instead of being 27 ins. wide, as stated in my previous affidavit, is never less than 28 ins. wide; and instead of being 54 ins. long, as stated in my previous affidavit, it is never less than 55 ins. long and usually longer than that, and instead of being 30 ins. thick the bands of the bales themselves slip to approximately 34 ins. and the cotton bulges out between the bands to generally 36 to 40 ins.

It will, therefore, be seen that a 500 lb. bale of cotton with only the minimum expansion to 28x54x36 ins. will result in a package of more than 32 cu. ft. This is the minimum which may be expected of the ginned bale after expansion.

P. O. Pederson stated: I am the same P. O. Pederson [fol. 476] who as Sales Engineer of the Continental Gin Company made an affidavit to certain parties under date of August 28th, 1931, which I understand has been filed with the Court. I have since reread that affidavit and I fear that the same is misleading, the inference might be drawn from it that a bale of cotton pressed in the Continental gin presses weighing 500 lbs. will have a dimension after complete expansion of 27x54x33 inches. After examination of a large amount of cotton at the gin presses out of the 1931 crop, I find that this is not correct. I do not want to convey that impression, since it only took into consideration the expansion of the bale on one side. Two of the dimensions I gave were the inside dimensions of the press box.

The figures in this former affidavit are based on a bale of low grade cotton ginned in our demonstration plant on cotton which had been in storage fully a year and had lost its resiliency. The figures did not cover bales of cotton in the ordinary course of ginning new cotton.

My experience in the practical operation at the gins had been limited, but I have since made extensive investigations at the gins. After such investigations, I find that where the cotton is pressed in the press box and the bale run up to the 30 in. prescribed mark on the box that after the ties are

put on, it will expand so that on measurement, the 27 in. [fol. 477] in the box will be about 28 inches; that on measurement, the 54 in. in the box will be about 56 inches; and that the expansion up and down after tying the bale will expand to 40 inches, making a bale 28x56x40 in. having approximately 36.3 cubic feet.

This number of cubic feet is about the minimum number which can be expected in the ordinary run of ginning and in actual practice the bales will contain on an average of probably 36 to 40 cubic feet and some times more. I have found that this is unavoidable due to the different quality of cotton, difference in moisture and the different resiliency in the cotton. The information above given will hold good on any kind of gin machinery, in my opinion, because they all have the same size press box and all operated under the same conditions.

D. A. BEARD stated: I have been engaged in hauling upon the highways by motor truck for several years and am familiar with the articles that move by motor truck over the highways, both those hauled by contract carriers and by common carriers.

I am familiar with a recent Act of the Legislature which prohibits the hauling by motor truck upon the highways of any load which contains more than fourteen boxed or bound articles when each of them weighs more than five hundred pounds and contains more than thirty cubic feet.

I do not know of anything else that could possibly be [fol. 478] covered by such a law as applied to motor trucks, except uncompressed cotton. I have never known a load of any other commodity except uncompressed cotton that would meet such a description; at least, I have never known of such a load being transported on the public highways. I do not mean to say that there has never been such a thing but if there has been I do not know of it in my experience, either as a hauler by truck or otherwise.

The witnesses CHARLES H. TIPS, T. R. ROGERS, WILLIAM ERVIN, R. T. DAVENPORT, L. L. SCHWENKE, and J. A. YOUNG, each testified to substantially the same facts as the fore-

going witness D. A. Beard, corroborating the material facts testified to by the said Beard.

J. F. BURWELL stated: That he is secretary of the Houston Cotton Exchange and has been for many years, and is familiar with most all kinds of cotton statistics that have been gotten out.

The average weights, as shown by reports of the Department of Commerce of square bales of cotton in Texas for the following years are as follows: 1920, 523.9; 1921, 516.1; 1922, 515.6; 1923, 515.6; 1924, 510.3; 1925, 508.2; 1926, 514.2; 1927, 515.4; 1928, 517.7; 1929, 519.2; 1930, 520.7.

B. H. BROGDEN stated: My name is B. H. Brogden. I am superintendent of the gin of the Henderson Cotton Co. at [fol. 479] Houston, Texas. I have been running a gin for fifteen (15) years and am now actively engaged at it.

The inquiry has been made of me whether or not it is possible in ginning cotton to make the bale contain less than thirty (30) cubic feet. I am familiar with gins and have seen a large number of them. It is not possible with present ginning equipment to gin a bale of cotton so that it will contain that small a volume of dimension and still contain the weight that is required in the trade for a bale of cotton. I understand, as everybody else does, that if a bale of cotton contains less than four hundred and fifty (450) pounds or over a prescribed limit, above five hundred (500) pounds, the cotton is penalized upon the market.

The reason cotton could not be ginned in that way is that no gin that I know of has that kind of pressure and second if it had such a pressure, no press box that I know of would sustain that pressure.

We have at our plant the latest approved press box and which will sustain as high a pressure as any gin that I know of, and it would not be possible for us to gin cotton in the manner suggested.

The only way cotton could be ginned in that manner would be to supply new equipment for all the cotton gins and I do not know of any such equipment on the market.

[fol. 480] M. F. CLAWSON stated: I am the manager and operator of a gin at Crosby, Texas. We are using the following type of cotton gin: Lummus Automatic #80 Bonded Gin #1905. The gin is in good condition and is of modern type. The press box inside measurements are the uniform 27x54x114".

We have just pressed our bale No. 367 by running the follow block to within 30 inches of the top platten, which is the distance prescribed by the manufacturer of our equipment. We tied the bale with the customary six bands as tightly as possible. I then weighed the bale. The weight was 570. I then measured the bale and the outside dimensions were as follows: 45 x 29 x 56. The bale contained 42.3 cubic feet.

The difference in the dimensions of the gin bale and the gin box, as reflected above, is due to the fact that after the bale is bound it necessarily expands, caused by the resiliency of the cotton. The extent is shown by the variations above, and it is unavoidable with any kind of gin equipment.

I have just measured ten bales of cotton picked at random from my gin book and I show below:

(1) The weight of the seed cotton before ginning.

(2) The weight of the seed after ginning.

(3) The weight of the bale of cotton after ginning, as follows:

[fol. 481]

Bale No.	Weight of seed cotton	Weight of seed	Weight of bale	Dimension of bale
354	1465	975	555	
355	1430	895	511	
365	1410	900	536	
367	1485	895	570	45 x 29 x 56
371	1730	1095	590	
374	1450	865	563	
381	1465	920	539	
382	1680	1025	577	
383	1400	880	489	
368	1455	940	556	

The above shows that it is wholly impossible to guage the weight of a bale of cotton before it is ginned.

It is utterly impossible for the ginner to estimate the weight of a bale of cotton from the load of seed cotton brought in. Cotton is grown from so many different kinds of seed, and under varying soil and climate conditions, so that the proportion of seed to lint constantly varies, this fact being demonstrated by the test of ten bales shown above.

Whereupon Intervener Stevens introduced the testimony of forty-three (43) gin operators, each of whom corroborated the testimony of the witness M. F. Clawson, and each of said witnesses testified that the bales measured by them [fol. 482] were in excess of five hundred (500) pounds, and contained more than thirty-two (32) cubic feet.

H. JEPPESEN stated: I am superintendent of Houston Compress Company compress at Houston.

I have today measured 25 B/C of uncompressed cotton at our plant, taking the bales at random. These bales came from widely separated portions of the state.

The dimensions of the 25 bales of cotton measured from the outside of the bale were as follows:

Length	Width	Thickness	Weight
54	49	27	552
54	47	27	604
54	47	27	545
54	47	27	531
55	47	28	551
54	49	28	562
55	48	28	452
55	48	27	527
55	48	28	579
55	48	27	564
54½	47¢	27¼	500
55	48	28½	562
56	49½	28	535
55	49½	29	609
56½	47	28	543
[fol. 483] 56	44	28	570
56	42	29	504

Length	Width	Thickness	Weight
56½	48½	28½	529
56	44½	29½	549
56	42½	28½	505
56½	46½	28	511
57	49	29½	523
56	43	29	542
56	43	29½	544
56½	48½	28½	525

The above dimensions were made on the bulge of flat bales of cotton. The sizes of these bales are just as representative of the average bales at the Compress as we could pick out. This company handles about 800,000 bales per year and the above sizes are fairly representative of the usual average sizes for this season.

Five superintendents of various compress companies testified in substance to the same facts testified to by the witness Jeppesen.

Intervener W. T. Stevens rests.

[fol. 484] TESTIMONY INTRODUCED BY RESPONDENTS

GEORGE A. KNAPP was thereupon called as a witness on behalf of the respondents and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Cook:

Practically continuously since last January, with the exception of a few intervals totalling probably not more than six weeks, I have made an intensive study of highway statistics and problems affecting the use of highways and the durability of highways and factors that make for deterioration of highways in this state. That study has been thorough and covers practically every phase of these problems.

The Bates test which is referred to in my affidavit is one that was instituted by the State of Illinois under the

direction of the State Highway Engineer; I believe his name was Clifford Older. It was made for the purpose of ascertaining the safe loadings which might be put on certain specified types of highways. It extended over a period of several years. I think it began in 1920 or '21, that is the latter part of '20 or '21, I am not sure, but that is approximately the time. That test was responsible for the change in highway design as recognized by good engineering practice.

In seeking conclusions for the purpose of highway de- [fol. 485] sign they treated a number of types of roads, the principal ones with which they experimented being the concrete or the rigid type of roads; they also included a number of sections of non-rigid type. The non-rigid type was represented by macadam road of various thicknesses with, usually, a two-inch Topeka top. My information as to the Topeka top is based on study of the tests that were made there as I read them; I read them at various places; they were reported in the transactions of the American Society of Civil Engineers by Mr. Older himself, who was the engineer in charge.

In that connection, these tests and the results thereof have become knowledge of my profession, generally known, and the results, so far as reflected in highway design, are in general use at this time by practically all the states and by the Bureau of Public Roads, so far as they require a certain conformance to their specifications for federal aid they are in practice, likewise specified there, that is, the results of these tests.

The Topeka roads of the non-rigid type were of macadam construction; it is broken stone laid in layers with a bituminous top laid over it two inches thick; it has a complete bituminous top. That was in the test in the non-rigid type.

Of the entire designated state highways, there are approximately thirty per cent of them that have bituminous [fol. 486] treatment and which are non-rigid, that is, were not of concrete. We can accurately say, as applied to that thirty per cent, that the test road used in the state's test was of equal quality to withstand loads, in a sense, the Bates was superior in that sub-grade upon which the surface rested was of uniform quality, in that they attempted to get a uniform support for the surfaces which they places

upon those roads. The state highway system, sub-grades vary with the various countries through which they run. Our best road of similar type would not be any better than this road designed for that purpose.

We have a number of roads of the same type that are of less load carrying ability.

In making the Bates test, these non-rigid types of roads are subjected to various runs in order to determine the point at which they would fail. The first one was made with a wheel load of 2,500 pounds. I think there were 300 such runs over that road with that particular wheel load of 2,500 pounds. The loads were increased from that point with an increment of 1,000 pounds, in other words, the next run which was made totalled 3,500 pounds per wheel load, and so on up. I have a report here up to the fifth run. However, the 8 inch macadam base with a 2 inch Topeka top failed during the run of the 3,500 pound wheel load.

[fol. 487] In order to use your 7,000 pound net load limitation it would be necessary to figure a truck of a manufacturer's rated capacity sufficient to carry 7,000 pound load. These vary in weight. If I were to be called upon to design such a road, I would assume a maximum condition to carry a 7,000 pound net load; in other words, I should assume a maximum truck that would carry 7,000 pounds. I would assume the maximum heavier truck rather than the average truck, simply because to do so might inject an unknown quantity in there which might bring the structure that I was designing into jeopardy. The average weight would be the result of a lesser load and a lesser loading; the structures must be built for the heavier loading. In other words, to cover the problem adequately, I should take the heaviest load. However, if one chooses the average load, you can take your 7,500 pound chassis of a three and a half ton truck, add to that a body for the heaviest carrying machinery, which would be roughly about 3,000 pounds, which would bring the load of your truck to 10,500 pounds, which together with the drivers and so on might bring it roughly to a round figure of 11,000 pounds. Understand, this is not the maximum weight truck that I am giving, this is the so-called average weight now, 11,000 pounds. To that you would add your 7,000 pounds for the net load, which would make 18,000 pounds; I mean gross load.

[fol. 488] The same distribution that would dictate bridge design would also dictate road design. Under the same specifications of both the United States Bureau of Public Roads and the most of the states of the United States, including Texas, the formula for the gross load distribution upon the axles or wheels, is that 8/10 of the gross load shall be assumed to be imposed upon the rear axle, or 4/10 per wheel load. We stopped with a gross loading of 18,000 pounds. Four-tenths of 18,000 pounds would give 7,200 pounds per wheel load. I mention that fact because the Bates highway test demonstrated, and there is an exhibit in my testimony of the Bates highway test, a photostatic copy showing that the road failed under a 3,500 pound wheel load after the passage of 300 loads with a 2,500 pound wheel load, and some time before the end of the 3,500 pound test. That is set forth in the exhibit which is attached and made a part of the affidavit.

I arrive at a conclusion that the law which fixes a 7,000 pound maximum net load applied to the average weight of trucks will permit even an excess of wheel load over that demonstrated to be safe upon that type of road.

As a basis for statutory legislation looking to the protection of the highways, the net load is a governing factor, if all elements of design are to be taken into account, that is, of highway design; undoubtedly that is the case. In other words, you must have a vehicle that would safely [fol. 489] carry a maximum net load. Such a vehicle should not be overloaded for safety, both in the use of the highways and the use of the public using the highways, the safety of the public in using the highways. If that end is to be attained, most certainly your vehicles should be proportioned to the loads that they would have to carry. In other words, you should not overload a proposition of manufacturers' rated capacity on the various vehicles specified, with a few exceptions, of which the Mack is one, specify not only the weight of the vehicle, but they specify the gross load which such vehicle will carry. That load necessarily takes cognizance of factors of safety which are built into the vehicle from the structural viewpoint, and also from the efficient operation of its brakes. But undoubtedly, the 7,000 pound specification of the load to be carried must form the basis of your design.

The exhibit attached to my affidavit sets forth an examination of 122 bridges approximately, surveys of which are on file in the state highway department of Texas, and the data that I have there is merely a compilation of the safe loading which those bridges will carry under the computations of the Highway Department. These surveys upon which the computations were made were made by the Highway Department; the computations for safe loading were made by the State Highway Department, the Bridge Engineers' Department in the State Highway Department, in [fol. 490] each case. What I have there is merely a compilation of what I was informed by the Bridge Engineer of the State Highway Department, his official data on record in the State Highway Department; I examined them personally; I found them in the Highway Department records. The data was made available to me by the Bridge Engineer of the State Highway Department. The members of his department gathered the plans together and interpreted the plans, and I might say that the statement that is attached as an exhibit setting forth the location of the bridges together with the safe bearing loads, was submitted to the scrutiny of the state's bridge engineer, and a copy is on file in his office. It bears his approval.

OFFERS IN EVIDENCE

Thereupon the respondent offered in evidence the affidavit referred to by the witness; to which affidavit the complainant and interveners objected for the reason that the same was inadmissible for any purpose, hearsay, and not the best evidence; which objection was overruled by the Court, to which the complainant and interveners excepted.

THE STATE OF TEXAS,
County of Harris:

Before me, the undersigned authority, on this day personally appeared George A. Knapp, who, being by me first duly sworn, on his oath deposes and says:

My Name is George A. Knapp, I am the George A. Knapp [fol. 491] who has heretofore made an affidavit for use in the case in which this affidavit is being used, my qualifica-

tions and experience as an engineer being fully set forth in such previous affidavit.

Within the past ten days I have made an examination in conjunction with certain officials of the State Highway Department of certain records of the State Highway Department at Austin with reference to the safe carrying capacity of many of the bridges in the State of Texas. Those records show the following facts to be true:

About the year 1925 the Highway Department began a series of surveys covering different bridges which had been acquired by the State of Texas from the different counties of the State. Each of these surveys pertain to only one bridge. The total number of such surveys which were covered by the examination was 122, exclusive of those surveys of bridges which have since been renewed. This number constituted all such bridges on which the Highway Department had made surveys.

Attached to this affidavit and made a part hereof is an exhibit which clearly shows information with reference to each of the bridges covered by such surveys including the safe load that can be carried by each of such bridges.

In connection with the exhibit, the following should be borne in mind:

[fol. 492] (a) The exhibit shows only bridges taken over by the State from the different counties which are located on State designated highways.

(b) The exhibit does not include, of course, all bridges located on State designated highways inasmuch as many of such bridges have not been surveyed and, furthermore, inasmuch as many of the bridges now maintained on the State designated highways were not taken over by the State from the counties but were built by the State itself.

(c) The exhibit, as a general proposition, presents a picture which is generally true with reference to a very great majority of all the County bridges located upon County highways as distinguished from State designated highways.

I am thoroughly acquainted with Section 5 of House Bill 336 as passed by the Legislature of the State of Texas in 1931. For the purpose of this affidavit I refer particularly to those provisions of House Bill 336 which permit the

carrying of a net load of 7000 pounds on any vehicle or combination of vehicles.

A study of the exhibit attached hereto makes it clear, beyond any question of a doubt, that on a very great majority of the bridges covered by the surveys referred to in such exhibit, it would be unsafe to carry a vehicle or combination of vehicles with a net load of more than 7000 pounds.

[fol. 493] Furthermore, bearing in mind the fact that, as a general rule, county bridges which are not located on State designated highways are inferior to bridges located on such highways, it is my opinion that the very great majority of County bridges which have not been taken over by the State could not safely support the weight of a vehicle or a combination of vehicles carrying a net load of 7000 pounds. I am assuming, as a basis for this statement, the lowest weight vehicle or combination of vehicles usually used in the transportation of such net loads.

(Signed) Geo. A. Knapp.

Sworn to and subscribed before me this 23rd day of November, A. D. 1931. (Signed) Helen D. Keller, Notary Public, Harris County, Texas. (Seal.)

EXHIBIT No. —

Witness: —— ——

Schedule of Bridges Showing Safe Load Capacities on Texas State Highways (Partial List)

NOTE.—Loading capacities as given below are stated in terms of a bridge condition new.

Br'g file No.	H'way No.	County	Between Town	Between Town	Name of stream	Date built	Safe load of bridge-tons	1 or 2 way bridge
1	1	Replaced by new bridge.						
2	85	.....	Eagle Pass (16.8 mi.)	Del. Rio (40 mi.)	Caracola	....	5.1	1
3	85	Demmitt	Carrizo Spg. 4.5 m	Dilly 40.5 mi	Turkey Crk	....	4.2	1
4–5	12-B	Webb	Laredo ½ mi	Zapala 50 mi	Chacon Crk	1890	4.5	2
6	7	Coryell	Gatesville 17 mi	Goldthwaite	E. Cowhouse Crk	1924	4.6	1
7	12	Bee-Goliad	On County Line		Blanco Crk	1910	2.6	2
8–9	5	Potter	Amarillo	Dumas	Canadian Riv	1906	5.4	2
9	85	Maverick	Del Rio –40 mi	Eagle Pass-16 mi	Lehman Crk	....	10.7	1
10	85	"	" 47 mi	" 10 "	#5	....	10.1	1
11	85	"	" 56 mi	" 1.4 "	Seco Crk	....	3.2	2
12	44	Lee	Giddings	Lexington	Nails Crk	....	4.2	1
13	5	Hartley	Channing 3.6 mi	Amarillo		....	10.0	1
14	44	Lee	8 mi. N. of Lexington		Allen Crk	....	4.2	1
15	21	"	Giddings	Caldwell	W. Yeagua Crk	....	2.8	1
16	3	Guadalupe	Seguin 11.5 mi	Gonzales 20 mi	Durst Crk	....	15.0	2
17	3	"	5 mi. from Seguin		Guadalupe Riv	1905	3.1	2
18	70	Coke	Bronte 13 mi	Robt Lee ½ mi	Mountain Crk	1906	3.5	1
19	29	Kimble	Telegraph 11 mi	Junction 5 mi	Crisp Hollow	1914	5.9	1
20	5	Potter	Amarillo	Channing	Amarillo Crk	1911	3.8	1
21	16	Bee	1 mi. S. of Papalote		Papalote Crk	1912	3.4	2
22	23	Runnels	Ballinger 1 mi	Coleman, 35 mi	Elm Crk	1890	3.8	2
23	3	Guadalupe	Seguin 7.5 mi	Gonzales 24 mi	Mill Crk	....	11.6	2
24	3	Replaced by New bridge.						
25	85	Maverick	Eagle Pass 14.6 mi	Del Rio 42 mi	Quemado	....	3.7	2
26	2	Bexar	At Kelly Field		Leon Crk	....	4.0	2
27	81	Dewitt	Cuero, 2 mi	Westhoff 12 mi	Guadalupe Riv	1887	3.3	2

EXHIBIT No. —

Witness: —— ——

Schedule of Bridges Showing Safe Load Capacities on Texas State Highways (Partial List)

NOTE.—Loading capacities as given below are stated in terms of a bridge condition new.

Br'g file No.	H'way No.	County	Between Town	Between Town	Name of stream	Date built	Safe load of bridge-tons	1 or 2 way bridge
28	7	Coryell	Goldthwaite	Gatesv'l 17.5 mi	Cowhouse Crk	1889	6.2	1
29	PB	Comanche	4 mi. S. of Comanche		Indian Crk	....	3.6	2
30	7	Coryell	Gatesville	Evant	Leon River	1904	2.7	2
31	PB	Comanche	9.4 mi. S. of Comanche		Mercers Crk	1924	1.36	1
32	22	"	Comanche 10.4 mi	Hamilton	Holmes Crk	1902	3.2	1
33	7	Coryell	Gatesville 10.5 mi	Waco	Coryell Crk	1915	3.4	1
34	10	Erath	15.2 mi. W. Stephenville		Paluxi Crk	1900	4.0	1
35	108	"	Stephenv'l 1.5 mi	Thurber		1898	3.9	1
[fol. 495]								
36	108	Erath	Stephenv'l 1.4 mi	Thurber		1909	3.1	1
37	10	Comanche	Brownwood	Comanche	Indian Crk	1900	4.1	1
38	22	"	Comanche 1.8 mi	Hamilton	" "	....	3.4	1
39	22	Hamilton	Hamilton 3 mi	Comanche 31 mi	Bear Crk	1924	5.9	1
40	79	Young	Olney	Throcmorton	Brazos Riv	....	3.2	2
41	3	Guadalupe	Seguin 4 mi	Gonzales 28 mi	Geronimo Crk	1919	8.1	2
42	3	Medina	Hondo 5 mi	Castorv'l 11.2	Hondo Riv	1905	4.1	2
43	22	Hamilton	Hamilton 22.5 mi	Meridian	Neales	1916	13.0	1
44	22	Comanche	"	Comanche 15.2 mi. S.	Leon Riv	1890	3.7	1
45	108	Hamilton	Hico, 16 mi	Hamilton 6.2 mi	Leon Riv	1890	3.7	1
46	22	"	Meridian	" 8.4 mi	" "	1890	3.6	1
47	99	Pecos, Crockett	McGamey	Ft. Stockton	Pecos Riv	1913	3.6	1
48	22	Bosque	Meridian 13.2	Hamilton	Meridian Cr	1916	1.9	1
49	82	Pecos, Ward	Ft. Stockton	Gr. Falls	Pecos Riv	1894	2.4	1
50	22	Navarro			E. Rush Cr	1916	4.0	1

51	74	Lampasas							
52	27	Crockett	Ft. Stock 79 mi	Ozona 40 mi	Sulphur Cr	1884	3.2	2
53	12	Bee	Berclair 10 mi	Beev'l 1.8 mi	Pecos Riv	1906	2.1	1
54	12	"	Replaced by new bridge.		Talpacate Cr	1912	4.4	2
55	16	"	Normanna 7 mi	Beev'l 8 mi	Medio Cr	1912	3.9	2
56	27	Kerr	Comfort	Center Pt	Brushy Cr	1914	5.2	2
57	85	Maverick	Eagle Pass 3.5 mi		Elm Cr	....	4.0	2
58	44	Lee			W. Yeagua Cr	....	4.5	
59	3	Medina	San Ant	Castroville	Medina Riv	1903	5.9	2
60	3	"			Hondo Riv	1905	6.3	2
61	87	Orange	Orange	Deweyville	Cow Bayou	1919	4.9	2
62	85	Maverick	Eagle Pass 8.6 mi	Del Rio 57 mi	#4	....	10.5	1
63	27	Kimble	Near Junction		N. Llano Riv	....	3.6	2
64	85	Maverick	2.8 mi. N. Eagle Pass		#2	....	12.0	2
65	7	Mills	10.5 mi. E. Goldthwaite		Bennett Crk	1915	4.2	1
66	12 & 16	Bee	Same as Plan No. 21.					
67	3	Guadalupe	1 mi. S. of Seguin		Guadalupe Riv	....	3.2	2
68	22	Comanche	Comanche 14 mi	Hamilton 17 mi	Leon Riv	1890	4.4	1
69	22	"	" 2 mi	" 29 mi	Indian Cr	....	5.3	1

[fol. 496]

70	22	Hill	Meridian	Hillsboro	Richland Crk	1908	3.1	1
71	22	"	"	" 7½ mi	Aguilla Crk	1925	3.6	2
72	22	Hill & Bosque	At Hill-Bosque Co. Line		Brazos Riv	1914	2.7	2
73	22	"	Whitney 0.3 mi	Meridian	Whitney Crk	1900	4.2	1
74	22	"	Hillsboro 8.2 mi	"	Creek	1910	4.8	1
75		Replaced by New Bridge.						
76		" " " "						
77		" " " "						
78	67	Bosque	Meridian	Waco 25.2 mi	Bosque Riv	1890	4.0	1
79	30	Jones	Abilene 18 mi	Anson 10 mi	Bitter Crk	....	3.4	2
80	30	"	" 8 "	" 20 "	Mulberry Crk	....	3.6	1
81	30	"	" 10 "	" 18 "	L. " "	....	3.0	2
82	22	Hill	Hillsboro 3.2 mi	Meridian	Jacks Br	1914	8.0	2
83	22	"	" 9.7 "	Corsicana		1905	4.7	1
84	22	Hamilton	Hamilton 4 mi	Comanche 31 mi	Bear Crk	....	3.4	1

EXHIBIT No. —

Witness: —— ——

Schedule of Bridges Showing Safe Load Capacities on Texas State Highways (Partial List)

NOTE.—Loading capacities as given below are stated in terms of a bridge condition new.

Br'g file No.	H'way No.	County	Between Town	Between Town	Name of stream	Date built	Safe load of bridge-tons	1 or 2 way bridge
85	10	Erath	Grandbury 15 mi	Bluff Dale ¼ mi	Bluff Dale Br	1890	1.5	1
86	22	Hamilton	Hamilton 20 mi	Meridian 22 mi	Meridian Cr	....	4.2	2
87	22	"	" 7 "	" 35 "	Leon Riv	1910	3.9	1
88	30	Jones	Stamford 13 mi	Anson 5 mi		1912	5.8	1
89	30	"	Abilene 20 mi	" 3 "	Cl. Fk. Brazos	1892	3.2	2
90	67	Hamilton	Hico ¼ mi	Dublin 25 mi	Bosque Riv	1908	2.2	2
91	18	Shackleford	Leuders 3 mi	Albany 24 mi	Cl. Fk. Brazos Riv	....	4.7	2
92	23	"	Throckmorton	" 10 "	Foil Flat Crk	....	3.6	1
93	23	"	"	" 18 "	Cl. Fk. Brazo	1885	5.0	1
94	7	Brown	Brownwood 1 mi	Coleman 32 mi	Adams Crk	1910	3.4	2
95	30	Taylor	Abilene 4 mi	Anson 24 mi	Elm Crk	....	3.2	1
96	10	Brown	Brownwood 16 mi	Brady 36 mi	Clear Crk	....	3.0	2
97	7	"	" 7 "	Goldthwaite	Steps Crk	....	5.0	1
98	7	"	" 1 "	Comanche 31 mi	Pecan Bayou	1884	5.1	2
99	74	Lampasas	Lampasas 12 mi	Goldthwaite	Burleson Crk	1899	3.0	2
100	10	Comanche	Comanche 1 mi	Brownwood 31 mi	Indian Crk	....	2.4	1
101	22	Hill	Hillsboro	Corsicana	White Rock Crk	1894	2.9	2
102	22	Navarro	Bloomingrove	"	Small Br	1920	3.9	1
103	6	Falls	Marlin 4 mi	Bremond	Big Crk	1897	5.0	1
104	22	Hill	Hillsboro		Pecan Crk	1905	2.1	1
105	M-C	Falls	Marlin 1 mi	Chilton	Creek	....	3.5	2

[fol. 497]

106	67	McLennan				Bosque Riv	1912	3.1	2
107	M-C	Falls	Marlin 1.8 mi	Chilton		Old Riv	1900	4.4	2
108	"	"	" 9.1 "	" 2.1 mi			....	15.0	2
109	"	"	" 4.2 "	" 7.0 "			1910	5.1	2
110			Navarro-Henderson Co. Line				1900	4.7	1
111	6	McLennan	Waco 16.7 mi				....	2.7	2
112	2	"	" 18 mi	Bruceville			1907	3.4	1
113	81	Dewitt	Cuero 2 mi	Westhoff 12 mi		Guadalupe Riv	1887	3.3	2
114	7	Brown	Comanche 18 mi	Goldthwaite		Blancket Crk	....	4.9	1
115	3A	Caldwell	Luling 3 mi	Seguin		San Marcos Riv	1914	4.9	2
116	29	"	" 3 "	Gonzales			1890	3.4	1
117	2	Bell	Belton 5 mi			Lampasas Riv	1889	2.4	2
118	2	Williamson	¼ Mi N. Georgetown				1922	15.0	2
119	91	San Saba	San Saba 5 Mi	Brady		San Saba Riv	....	3.0	2
120	29	Llano-Burnett	Co. Line			Colorado Riv	....	3.3	2
121	91	San Saba-Lampasas Co. Line				" "	1902	3.3	2
122	74		Georgetown 6 mi	Florence		Berry Crk	1922	3.5	2

[fol. 498] I feel sure, based upon my knowledge of the entire improved highways in Texas, that not more than three per cent of the entire state highway mileage would be comparable with the non-rigid type roads, about which I just testified. I make that observation in view of the fact that the Bureau of Public Roads report for the year ending December 31, 1929 shows that of the entire state highway mileage of approximately 138,000 miles, that between eight and nine per cent of the entire mileage has any improvement whatever. I can give those exact figures, but that is approximately.

Cross-examination.

By Mr. Francis:

I am special engineer with the Southern Pacific. I stated that I had been working on this problem since last January in connection with my own studies, because I am a special engineer; it was not entirely under the direction of Mr. Cook or Mr. Huff. As I said, part of the time, in fact, much of the time was spent as I had leisure to go into the proposition just in order to be informed as to these things.

I am not informed as to the railroad's interest in the Bill at all; I could not testify to that, I don't know their interest. I don't know whether or not the Missouri Pacific is interested in it because of its economic effect upon traffic; Mr. Cook, who is conducting the case for the state as leading [fol. 499] counsel, is with the Missouri Pacific. Mr. C. C. Huff who is assisting in the conduct for the State, is general counsel for the M. K. & T. As far as I know, Mr. Streetman, who is assisting in the case, represents the Missouri Pacific. I couldn't tell you what railroad Mr. Cole represents. My own railroad sent me to Austin to gather the data and to compile it; that was started last January, about the time, or a little after, that the Legislature convened. I didn't have anything to do with the matter of presenting these bills; I didn't appear before any committees nor give any testimony.

In making the Bates test, I couldn't tell you what kind of tires were used on the vehicles, except in so far as there was nothing in the articles which I read which mentioned the type of tires that were used; the test was made about

1928. I can tell from the picture the type of tires used; my knowledge is based upon observation; I didn't observe this test. I observed the photographs that were made from it. This is only a part of the information from which I gathered my data. As I said, there were numerous pamphlets issued by the State of Illinois, bulletins in that connection. I saw those bulletins at the University of Texas; Mr. Polk had some of the bulletins there. My observation was that they were high-pressure tires. I am not stating that as a [fol. 500] fact, that is as I observed the picture; I mean they were pneumatic, high-pressure tires, not balloons. I haven't information as to the width of the tires per square inch of the pavement that was used in these tests; that is very important. When I speak of the wheel load of so many pounds as being destructive of a highway, I can not tell this Court that a certain wheel load would destroy a certain type of highway without I could tell what was the tire spread of that particular wheel upon the highways; it has not been given in the information that I had.

I have stated here certain conclusions of a certain test which I heard about taken in 1922 and I am not certain as to the kind of tires that were used, and I know nothing as to the tire spread of the particular wheel load referred to; that is correct except as to Mr. Older,—in his article he stated that he had duplicated highway conditions that existed at that time. Those conditions were analogous to those that exist today with the possible exception of the balloon tires; I think they are the same with respect to the pneumatic tire. The pneumatic tire is the same now as it was then, the high-pressure tire. I never made the statement that since 1922 that with respect to commercial trucks that there has been no very large and marked change in the type of tires that are used on that class of vehicle. I did not say that conditions were the same; I did not say that there had been no changes in the condition of the tires [fol. 501] on the trucks.

It is my testimony that these Bates tests disclosed that the ordinary type of macadam highway which we find in parts of our Texas highways, that that type would be destroyed under a wheel load of 3500 pounds as exemplified by these tests, on an eight inch base and two inch topping.

Stretch No. 7 was a piece of asphaltic pavement out of 63

sections, about 53 ft. long. Topeka is not Portland cement topping; it is bituminous topping.

By six failures I mean that the roads disintegrated at six points, which indicated a decisive failure; there is a conventional sign at the top of the exhibit I furnished, and that indicates complete failures, and that is the test. A failure is when the road is unfit or unserviceable for further traffic without rebuilding; it doesn't mean that the road is cracking and breaking. It means that the road has disintegrated in the case of a non-rigid type. If it were of concrete it may be disintegrated; it may be cracked. But this is a non-rigid type.

Stretch No. 7 is just one little stretch of those 63 sections. I mean that it failed in six different places, six decisive failures. It was not a complete failure, it wasn't a crack; you don't get a failure in macadam roads of non-rigid types by cracks, except as they may form the basis of [fol. 502] the final failure, but a crack would not be considered a final failure in a non-rigid type of road.

I know it is a fact that one of the conclusions that was drawn from this Bates test was that the test demonstrated that in the deterioration of this type of road which I have been discussing, that weight was not a factor to be taken into consideration in that type of highway until it went beyond the proportion of 56% of the static allowable; I don't think it is significant. I only know that that is one of the conclusions drawn from your statement, this fifth run did not embody the final findings. I do not know that this is the conclusion that is drawn from those tests, not from the articles.

I can not tell the Court what were the conclusions that were drawn from these extended tests by the gentlemen who conducted them. I took the failure of the road as conclusive. I do not have a complete report of this test here, but there is one right over there. I am referring to this book, American Society of Civil Engineers, Volume 87, 1924; that is what I was referring to as containing the conclusions and the complete tests.

I did not get my data or information from this book in connection with the Bates test.

It is not my testimony that the ordinary concrete pavement in Texas designed under federal specifications is not [fol. 503] sufficient to support a wheel load of more than

3500 pounds. I do not know what wheel load they are capable of supporting, I haven't figured it, but it has been my information, and I could figure it,—I think it is in the neighborhood of eight or nine thousand pounds. On the non-rigid type road my estimate would be that 3500 pounds would be the maximum wheel load that ought to be placed on it. It is customary on trucks where you have dual rear tires, to have them as large as eight and a quarter inches each, and on the front, ten and a half inches wide. That would give a total of approximately 53 inches of tire. Under a 600 pounds per square inch of tire spread, you would be allowed a gross weight of approximately 31,000 pounds. A wheel load in round figures on the rear, speaking in the proportion which I fixed of eight to ten would be 12,400 pounds wheel load.

It is not a fact that a wheel load of that amount can be carried safely on a macadamized highway such as is described where the proportion of the tire spread is that proportion which I have here indicated, and which is provided for in this law of 600 pounds per square inch of tire spread; I don't believe that that load could be carried on a macadamized highway under all conditions of traffic safely. Without taking into account the highway over which the load is to be transported, it is not true that there can be with safety [fol. 504] a wide variation in wheel load which can be safely carried where you make the tire spread proportionate to the load that you are carrying; you are talking about highway and I am talking about macadam; that is true on that.

With respect to the other types of road that step down lower than the macadam, it is not true that the smaller, lighter and more rapidly moving vehicles are more damaging to those under normal conditions than the heavily loaded, slow moving vehicle. The elements which enter into impact are both weight and speed, as well as the consideration of the obstruction which causes the impact. Your weight and your speed are, under ordinary conditions of highway impact, equally effective. The impact will vary directly as the speed; it will vary directly as the weight, under ordinary highway conditions of impact up to a point where your speed is excessive. By that I mean above the speed limit of 45 miles, when your speed becomes very, very negligible; in other words, at the end of an impact you hit

a very glancing blow when it is going very fast, whereas, if you are going slowly, you get a direct drop down.

I say that a direct drop down of impact is more damaging than a slanting, cutting one of the smaller cars.

I think it is a reasonable safety measure, one which has any direct relation whatever to the conservation of highways, to force upon this same 160 or 70 thousand miles of [fol. 505] feeder highways that I speak of, wheel loads of 14,000 pounds, carrying into the common carrier receiving stations and put on the best and better constructed state highways running between towns only 7,000 pound loads. I would consider that; I would like to say that I do so simply because the best roads are such a small proportion of the total. There are about 2,000 miles of rigid type highways in the state, which I say can safely carry, in my opinion, an 8,000 pound axle-load, wheel load, not axle-load.

I say that it is conducive to the protection of the highways to put out on these dirt, shell and feeder roads, up to the main highway, 14,000 pound loads, that that is in the interest of highway preservation; I consider that 186,000 miles of Texas highway would carry a greater weight in their need for preservation than the 2,000 miles of your rigid type which I consider could safely carry your 8,000 pounds.

Taking the macadam type of highway, with a passenger bus which has a weight when filled with passengers of approximately 25,000 pounds, moving at a speed of 45 miles per hour, and a commercial truck similarly equipped and built, weighing approxiately 5,000 pounds, and with it its load of 7,000 pounds, or a total of 12,000 pounds, the relative effect of those two vehicles running over that identical stretch of highway so far as a damage to highway is con- [fol. 506] cerned, would be the greater weight, and the greater speed would do the greater damage.

The mere fact that a passenger bus has better brakes on it and could stop quicker, from the braking point of view, that would not have anything to do with protecting the highway from the weight standpoint.

The fact that passenger busses are equipped so that travelers may ride comfortably in them, would have something to do with whether or not it would just as likely damage the highway from its weight; the bus is constructed

to absorb shock to a much greater extent than any truck; likewise the load that is carried, human load, absorbs shock within itself; and additionally, the distribution of the busses' loads on the axles is almost uniformly entirely different from the distribution of the net load on a truck axle.

I know something about the construction of busses and heavy trucks. I do not know that a passenger bus is built and designed to throw the jar to the road and not to the passengers, and that its springs and everything about it are so adjusted as to make the impact to the road and not to the passengers, because whenever you have action you have reaction; action comes from the shock and you have reaction to your passengers. The springs and everything that is built into the truck to make it resilient and to absorb [fol. 507] shock will protect the road just as it protects the passengers. I don't think anybody seriously contends that a passenger bus weighing 22,000 pounds with its load would impose less weight upon a highway than a truck weighing 5,000 pounds that is not loaded.

I am not prepared to say whether there is any difference in the tires that are used on ordinary commercial trucks and the passenger busses; there are some high pressure tires used and some balloon tires, and I am not prepared to say whether there is any difference.

I feel that my connection with the railroad in this matter does not prevent me from giving as disinterested an opinion on the reasonableness of this bill as if I had no connection with the railroad; I ~~don't feel like~~ that would in any way influence me. My railroad connection would not in any way embarrass my ability to give a disinterested opinion on this matter.

As an engineer, I do not believe that the relationship between the net load of a vehicle and the damage which that venicle may do to the highway is very remote; it is a definite factor in the damage accruing to the highway; I think it is very direct and very definite and very certain.

[fol. 508] Redirect examination.

By Mr. Cook:

The last highway report gave 1,875 busses registered in the state of Texas. The same report gave 304,000 com-

mercial trucks registered in the State of Texas. The trucks vary from half ton trucks on up to the heaviest equipment for oil well and oil field machinery. The busses vary from Ford touring cars on up to the largest busses that are used in the state.

I have myself specially observed the cotton trucks. They have been very numerous on the highways of Texas. They are usually one and a half ton trucks according to my observation. As to tires, they vary very slightly. They range usually, six inch dual tires in the rear on the truck of various diameters, usually around 32 inches, however, to a six inch balloon tire; they are high-pressure, usually, on the rear wheels of the tractor unit of the truck, and sometimes a balloon in front and sometimes high-pressure in front, but usually six inches in front and six inches for the dual rear wheels.

On that type of equipment from my personal observation the loads run between 20 and 25 bales of cotton, occasionally more. A bale of cotton usually weighs 500 pounds. Those trucks, on the average, compared to their rated capacity, are overloaded very much. The Chevrolet truck [fol. 509] publishes its gross load. Its braking power is designed for the load which it publishes. Any excess of that would be overloading, and the degree of the excess would also be indicative of the degree of overloading. The braking power is important in that it determines the ability of the truck to stop, and if you overload a truck two or three or four times you decrease its ability to stop within a reasonable distance.

Recross-examination.

By Mr. Francis:

I do not know what percentage of those commercial trucks I speak of are in use in the cities in the way of laundry wagons, milk wagons and such as that. I do not know it to be a fact that only about twenty percent of the total is used out on the state highways in ordinary commercial trucks.

I have attached to my affidavit some extracts from a newspaper or magazine. Those tests were made by the Bureau of Public Roads of the United States Government

Department of Agriculture at Arlington. Those are just extracts quoted from the magazine, "Public Roads," which is published by the United States Department of Agriculture.

I haven't got one of those magazines from which I made those quotations; I have a magazine, but I don't know that I have that one. I have some recent ones. I assumed that these tests were correct, so far as my reading and analysis [fol. 510] and appeal to my understanding; some of them go back to 1923 and 1924 and 1922. They are not largely out of date.

The respondents offered in evidence four affidavits of the witness GEORGE A. KNAPP, the substance of which is hereinafter set forth.

My name is Geo. A. Knapp. I reside in Houston, Texas. I am employed as Special Engineer for the Southern Pacific Lines in Texas and Louisiana. I was graduated from the Baltimore Polytechnic Institute in 1899 and have practiced Civil Engineering continuously since that date. Approximately one-half of the period since graduation has been in engineering railroad work. The remainder of the time has been spent in general practice, covering drainage, highways, irrigation, structural design and contracting. About two and one-half years of this time was spent as Lieutenant Colonel in command of the 315th Engineer Regiment, 90th Division for the duration of the World War.

During a considerable period of time I have been assigned to gather certain statisties concerning motor carrier and motor vehicular operation over the highways of Texas, and concerning the highways of Texas. Pursuant to these investigations, I have ascertained from an inspection of tax records that the average size of all truck and com- [fol. 511] mercial motor vehicles in Texas is approximately one ton, manufacturers rated vapacity. As license taxes are now levied upon the gross weight of a truck, that is, the weight of the entire truck plus the weight of the rated capacity load, the gross or taxable weight of the average one ton truck is approximately 5000 pounds. Likewise the average size of carrier trucks, those transporting goods for hire, has been ascertained to be 2½ tons rated capacity and

as having a corresponding gross weight of approximately 11,000 pounds. The average weight of all privately operated motor passenger cars in Texas is found to be approximately 2600 pounds, which when loaded with an average of three persons will have a gross weight of approximately 3000 pounds. In addition to the foregoing data pertaining to the sizes and loads of the average classes of trucks in Texas, it is essential to know how many of the larger sized and heavier trucks there are as compared with the number of smaller types. Probably the best index of this question is furnished by the relative numbers of the various sizes of trucks manufactured. Taking an average for the four years 1926 to 1929, inclusive, it is found that 60% of all trucks produced were less than 1½ tons capacity; 89% were less than 2 tons capacity; 93% were less than 2½ tons capacity; and 97.3 were 3½ tons capacity and less. In order to apply these average figures to Texas trucks, it is necessary to consider the relative mileage of the improved [fol. 512] and unimproved roads in Texas as compared with the United States, good roads being invariably a prerequisite to the use of the heavier types of trucks. The surfaced rural highways of Texas are 61% of the average for the United States, while the rigid type or concrete rural highways of Texas are 38% of the average for the United States. The assumption is therefore liberal that the relative number of the heavier trucks in Texas is equal to that of the average for the United States. Assuming then these percentages to be representative of the various sizes of trucks used in Texas, there were registered in Texas during 1930, out of a total of 206,528 trucks of all sizes the following:

Trucks with a rated capacity of less than 3000 lbs.	123,917
" " " " " " " 4000 "	183,810
" " " " " " " 5000 "	192,071
" " " " " " 7000 lbs. and less	200,951
" " " " " " more than 7000 lbs.	5,577

The total number of passenger vehicles registered during the calendar year January 1, 1930 to December 31, 1930, was 1,158,415. The heaviest of these weighs but 6300 pounds and with a full load of seven passengers at 150 pounds each, would weigh 7350 pounds, thus coming well

within the gross weight of 15,000 pounds of a 3½ ton truck. Considering the fact that there are 1,359,366 pasenger cars and trucks now in Texas having a gross weight less than that of a motor truck with a rated capacity of 7000 pounds [fol. 513] out of a total of 1,364,943 vehicles it is seen that only four tenths of one per cent of the total have rated capacities of more than 7000 pounds. (This omits consideration of buses, tractors and motorcycles, whose combined number is 4/1000 of 1% of all motor vehicles.)

Considering all of the foregoing data, the following inference may be reasonably drawn: that the highway construction and maintenance requirement, designed for a truck having a rated capacity of 7000 pounds and less, would accom-odate 99.6 per cent of all motor vehicles in Texas. That in permitting trucks having greater loads than 7000 pounds to operate upon the highways would have one of two results:

Either heavier and more costly types of highway construction would be required for the use of four tenths of one per cent of all the motor vehicles or that the lesser types of highway construction suitable for trucks having a rated capacity of 7000 pounds and less would be greatly damaged by the heavier trucks, resulting in a decreased life of the highways with greatly increased maintenance costs. Further, that the increased cost, in either case, would be paid almost entirely by the 99.6% of the owners operating the lighter vehicles.

Many misleading and irresponsible statements have been made as to the amount of the taxes which are being paid by the trucks operating upon Texas highways and the rela- [fol. 514] tion of the amount of these taxes to the cost of the highways and their maintenance. An examination of the records for the total license fees and gasoline taxes which have been paid by all trucks and trailers registered in Texas since the time that special taxation of motor vehicles was begun in 1917 or down through the year 1930 shows the following:

(Note.—Registration fees below based on actual fees to State Highway funds, plus estimated to County road and bridge fund. Gasoline tax amounts are apportioned on

estimated consumption for the respective classes of vehicles.)

1917-1930, inclusive	All motor vehicles	All trucks and trailers
Total license fees	$124,256,357	$19,276,461
Total gasoline tax	85,190,212	16,143,979
Total special taxes not including privilege tax	$209,446,569	$35,520,440

It is thus seen that the total special taxes, gasoline and license, paid by all trucks and trailers for all years during which these taxes were levied amounted to approximately 17% of the total paid by all motor vehicles during the same period, the passenger cars and other minor vehicles paying 83%. The buses paid about 2% which because of its comparative insignificance has been included in the 83% as shown.

All of the foregoing tax data pertains to taxes which are common to all motor vehicles. In the case of carrier trucks, both common and contract carriers, as also motor buses, [fol. 515] there is an additional tax levied which may properly be called a "privilege tax" in that the purpose of its payment is to exact a fee for the use of the public highways upon which these vehicles conduct a private business, transporting as they do, either persons or property for hire.

This tax in the case of the common carrier or Class A trucks is $15.00 per vehicle per year and in the case of the contract carrier or Class B truck is $5.00 per vehicle per year. In the case of the bus the fee amounts to $1.00 per seat plus $10.00 per vehicle per year or an approximate total of $30.00 per average vehicle per year.

The cost of the State Highway System to date is approximately $250,000,000 and their maintenance has averaged during the past three years the sum of $12,000,000 per year. Considering the interest on the public's investment, say at 6% per year, plus the cost of maintenance, would show an annual carrying charge of $27,000,000 per year. To this must be added an unidentified sum for the permanent damage wrought to the highways which has been caused by the operation of the heavier carrier trucks which has been shown to be 2½ times that of the average truck. The most casual inspection of these data will show

the inadequacy of these fees for the use of the highways as a public property upon which to conduct a private business. Moreover the claim so often heard that "the trucks [fol. 516] are paying for the highways" is set at naught when it is realized that the total taxes of all trucks has paid but 14% of the present cost of the State highways allowing nothing for their maintenance.

"In the drafting of laws designed to adequately protect the public's investment in the highway system as well as to prevent any unwarranted expenditure of public money for highway maintenance, the consideration of primary importance is that concerned with the size and loading of the vehicles passing over the highway. I am familiar with the provisions of House Bill 336 passed by the 42nd Legislature at its regular session, and it is my opinion that, in view of the foregoing data, and especially those provisions limiting the load and speed of motor trucks, if properly enforced, will reduce the maintenance costs of our State highways by, at least, $3,500,000.00 to $4,000,000.00 per year. This would represent a saving in maintenance along of one-third of the annual expenditure for that purpose."

My name is GEORGE A. KNAPP, my residence being at Houston, Texas. I am now engaged as Special Engineer with the Southern Pacific Railway Lines in Texas and Louisiana. I was a graduate of Baltimore Polytechnic Institute in 1899, and have practiced civil engineering continuously since that date. About one-half of this period [fol. 517] has been spent in railroad work, the other half being divided between the general engineering practice, covering drainage, highways, irrigation, structural design and contracting. As Lieutenant-Colobel of Engineers, I commanded the 315th Regiment, 90th Division during the World War.

I have carefully examined the data shown by highway tests which have been made by the Bureau of Public Roads, United States Department of Agriculture and by the Highway Department of the State of Illinois, the latter test being known as the "Bates Experimental Road Test," and have attached hereto and have made a part hereof,

extracts of the publication of the results of such highway tests, being referred to herein as follows:

Exhibit No. 1, Impact Tests on Concrete Pavement Slabs.

Exhibit No. 2, Interrelationship of Load, Road and Subgrade.

Exhibit No. 3, Traffic Tests of Bates Experimental Road. Summarized.

Also attached hereto and made a part hereof is a statement showing miles of various types of Texas State Highways as of August 31, 1930, as furnished by the State Highway Department, being referred to herein as Exhibit No. 4.

The results of the tests shown in Exhibit No. 1, are divided into two parts, those setting forth the strength under traffic impact conditions of concrete roads 1, when laid [fol. 518] upon wet subgrades and 2, when laid upon dry subgrades. The conclusions are stated in terms of maximum impacts delivered by different weights of motor trucks. Failure is assumed to have occurred when cracking takes place. The maximum impact values are such as would be expected under conditions of high speed and rough surface.

The results of the test, shown by Exhibit 1, are briefly stated and explained as follows:

That, laid on a wet plastic subgrade, none of the unreinforced slabs tested were capable of resisting impact at the edge or corner equivalent to a five ton truck. The thickness of the concrete of the highest type so tested was eight inches, was of the richest mixture used in concrete road construction, that is, one part cement, one and one-half parts sand and three parts stone, and was surfaced with two inches of Topeka top (a bituminous wearing surface).

That, laid on a wet plastic subgrade, all unreinforced slabs of lesser thickness than eight inches of concrete, failed under edge or corner impact of less than a two ton truck. A description of the highest type so failing is as follows: Thickness of concrete six inches, thickness of Topeka top two inches, mixture, the richest used, that is, one part cement, one and one-half parts sand and three parts of stone.

That, laid on a dry subgrade, the unreinforced slabs [fol. 519] of concrete, having a depth of eight inches with

two inches of Topeka top and a mix of 1:1½:3 resisted edge and corner impact of a five ton truck with a safe margin.

That, laid on a dry subgrade, only one of the four slabs having a depth of six inches of concrete of 1:1½:3 mix resisted the edge and corner impact of a three-ton truck.

The significance of the results of these tests lies in the fact that while the best of the concrete highways of the state of Texas have a thickness of six inches at the center and nine inches at the edges, and others have seven inches at the center and four inches at the edges, yet as shown by Exhibit 4, the total mileage of all concrete types of state highways of Texas amounts to but eleven per cent of the entire mileage of the state highway system. Exhibit 4 also shows that of the non-rigid types representing eighty-nine per cent of the total state highways, practically one-half of these are without any surface other than earth.

Exhibit 2 sets forth the interrelationship of the load, the road, and the subgrade and draws a comparison of the load sustaining power of the non-rigid types (those other than concrete) with the rigid types or concrete roads.

The treatise from which Exhibit 2 was extracted, was prepared by C. A. Hogentogler, Senior Highway Engineer, [fol. 520] and Charles Terzaghi, Research Consultant, U. S. Bureau of Public Roads and briefly stated, sets forth the following:

That both field and laboratory observations demonstrate that new water-bound macadams, as compared with rigid types, afford relatively small load distribution to the subgrade upon which the pavement rests.

That tests at the Arlington Experiment Station show that a load placed directly on a concrete slab transmits a unit pressure to a clay subgrade equal to but one-eighth of that exerted by the same load when placed directly on a crushed stone layer (non-rigid type pavement) of equal area and equal thickness.

That a load placed on a concrete slab four inches thick transmits a unit pressure upon a clay subgrade equal to that exerted by the same load when placed on a crushed stone layer forty-two inches trick. In other words, a given load requires a crushed stone layer of ten and one-half times the thickness of a four inch concrete slab to transmit the same pressure per square foot upon a clay subgrade.

That the Bates tests, the results of which are summarized in Exhibit 3, show that a load placed on a concrete pavement slab eight inches thick transmits to the subgrade only one tenth of the pressure in pounds per square foot at that transmitted by the same load when placed upon a pavement composed of a three inch brick top upon a two inch [fol. 521] mastic cushion, all upon a macadam base eight inches thick.

That load pressures transmitted through non-rigid types of pavements depend almost entirely upon the character of the subgrade supporting the pavement.

Considering the fact that a number of tests of concrete roads, as shown in Exhibit 1, ranging from four inches to six inches in thickness, laid on a dry subgrade and having in some cases additionally, Topeka tops of two inches thickness, and being of a rich mix of 1:1½:3, were incapable of resisting impact of a three ton truck, it is clear that a seven thousand pound, or three and one-half ton load, is the limit, if not actually excessive for all non-rigid type pavements and which, type, to repeat, is eighty-nine per cent of the entire State Highway System.

Further evidence in support of the results shown by the tests already cited is found in Exhibit 3, summarizing the traffic tests of the Bates Experimental Highway. Sections 6 to 11, inclusive, which on the exhibit are enclosed by a red line, are of the non-rigid type of highway pavement.

It is to be noted herein that Section number 7 constructed of eight inches of macadam with a two inch Topeka top failed decisively with a rear wheel load of three thousand five hundred pounds which would show a gross truck load of approximately eight thousand eight hundred pounds. [fol. 522] Likewise, test number 6, which represents the heaviest type of non-rigid pavement tested, having a depth of ten inches of macadam with a two inch Topeka top, failed in the third test, using a rear wheel load of four thousand five hundred pounds or a gross truck load of approximately eleven thousand two hundred fifty pounds. In the "Engineering News-Record" of August 18, 1921, Page 275, is stated a brief description of the sub-grade construction which reads in part as follows:

"Great care was taken in preparing the subgrade under all sections so that it would have the same treatment throughout."

In drawing comparisons for Texas highways with tests referred to above, it is necessary to consider the fact that several thousand miles of the state highway system are located in the Gulf Coast country of Texas where, except in the river bottoms, the soil is almost uniformly of clay and further, that the small average fall of the coastal plain taken together with the fact of an average annual rainfall of fifty-four inches, results in a drainage condition which is notoriously difficult and which at best, frequently renders highway drainage ineffective. Likewise, the freezing temperatures of West Texas and the Panhandle also create adverse conditions for highway subgrades.

Therefore, considering the fact that the gross load of a [fol. 523] three and a half ton truck is approximately fifteen thousand pounds, it is my opinion, based upon the results shown by the foregoing tests and the State Highway conditions cited, and further qualified by my engineering knowledge and experience, that any weight permitted in excess of three and one-half tons, net load, would result in correspondingly increased maintenance costs and the greatly decreased service life of at least eighty-nine per cent of the State highways of Texas.

EXHIBIT 1

Extracts quoted from "Public Roads," published by the Bureau of Public Roads of the United States Department of Agriculture, showing the results of official tests made of the strength of various types of highways and comparing the strength of the non-rigid types (those other than concrete) with the rigid or concrete types.

NOTE.—References of the month and year as also the page numbers shown, pertain to the issue of "Public Roads" from which the extract was taken.

Impact Tests on Concrete Pavement Slabs (Apr. 1924)

Page 1: There is little evidence of cushioning by bituminous tops on concrete bases at temperatures of 90° or less.

There was no evidence that bituminous tops on concrete [fol. 524] bases add to the strength of the base, with the

possible exception of the 4 inch and 6 inch bases on the dry subgrade.

Laid on the wet plastic subgrade none of the unreinforced slabs was capable of resisting impact at the edge or corner equivalent to that of a 5-ton truck; only the 8 inch, 1:1½:3 slabs and the 2 inch Topeka top on 8 inch, 1:1½:3 bases resisted edge or corner impact equivalent to a 3 ton truck; all unreinforced slabs of lesser thickness failed under edge or corner impact less than a 2 ton truck.

Page 2: Laid on a dry subgrade the 8 inch plain concrete slabs of 1:1½:3 mix and the 8 inch edge thickness, unreinforced, 1:1½:3 bases with 2 inch Topeke tops resisted edge and corner impact equivalent to that of a 5 ton truck with a safe margin; no other slabs were capable of resisting the 5 ton truck impact even under the favorable conditions of dry subgrade support. A section of 6 inch plain concrete base, 1:1½:3 mix, with a 2 inch Topeka top resisted the edge impact of a 3 ton truck; no other slabs of a lesser edge thickness, laid on the dry subgrade, were capable of resisting impact greater than that of a 2 ton truck.

None of the systems of steel reinforcing tested added sufficiently to the strength of a 6 inch 1:1½:3 concrete slab to enable it to resist the edge and corner impact of a 3 ton truck when the slab was supported by a very wet, plastic subgrade, nor to resist the edge or corner impact of a 5 ton [fol. 525] truck when the slab was supported by a dry subgrade.

Page 3: The subgrade on which the slabs rested were brought to grade by cutting. No fills were permitted.

Four and six inch concrete bases on the wet subgrade sections were cracked in rolling the bituminous tops, the lean mixes breaking up very badly.—It is worth noting that 6 inch, 1:1½:3 concrete bases were cracked in construction (of the top) where a fairly bad subgrade condition obtained, while 4 inch bases of the same mix withstood the same roller loads undamaged on a good subgrade.

Page 6: The slabs tested have especially emphasized the important part the subgrade plays in the resistance of a road slab of any type. The rigid slabs on the wet subgrade showed roughly two-thirds of the resistance of duplicate slabs on the good subgrade.

Page 2, Table 1: Description of Test Slabs:

Plain Concrete Slabs—Wet and Dry Subgrades

Concrete slabs varied from 4 to 8 inches, the mix being either 1:1½:3 or 1:3:6.

26 slabs of the above had a bituminous surface course varying from 2 to 4 inches in thickness.

18 slabs were tested without any bituminous surface.

Concrete Slabs with Mesh Reinforcing—Wet and Dry Subgrade

26 slabs tested with thickness of 4 or 6 inches, mesh varying from #6 to #10 more or two layers, the per cent of re- [fol. 526] inforcement varying from 0.19 to 0.82, and the six being 1:1½:3.

Concrete Slabs with Rod Reinforcing—Dry Subgrade

18 slabs tested with thickness of 4 to 6 inches of 1:1½:3 mix, reinforcement being in 1 or 2 layers, or rods ⅜ to ⅞ inches with spacing of rods varying from 3¾ to 40 inches, the reinforcement per cent being either 0.5 or 1.0.

EXHIBIT II

Interrelationship of Load, Road, and Subgrade (May 1929)

Load Distribution by Different Types of Pavements Discussed

Page 37: For purpose of this discussion, road surfaces are divided into those which offer very little or no resistance against bending (flexible types including macadam) and those which have appreciable "beam" strength (concrete roads, etc.).

Both field and laboratory observations demonstrate that new water-bound macadams, as compared with the rigid types, afford relatively small load distribution (that is, the load imposed upon the surface of the road is transferred to an area of the subgrade lying beneath the road surfacing material which is relatively small when compared with that obtained by a rigid type or concrete road). Tests at the

[fol. 527] Arlington Experiment Station show that a load placed directly on a concrete slab (8 feet square) exerts a unit pressure on a clay subgrade equal to but one-eighth of that exerted by the same load when placed directly on a crushed stone layer of equal area and thickness. The same experiments indicate that a load placed on a concrete slab 4 inches thick exerts a unit pressure upon a clay base equal to that exerted by the same load when placed on a crushed stone layer 42 inches thick.

Page 38: The Bates tests show that a load placed on a concrete pavement slab 8 inches thick exerts a unit pressure on the subgrade equal to but one-tenth of that exerted by the same load when placed upon a full sized pavement composed of a 3 inch brick top, a 2 inch mastic cushion, and a macadam base 8 inches thick.

In the Arlington experiment the load when placed on the macadam surface was distributed over an area of 4 feet in diameter, and when placed on the concrete was distributed over an area equal to that of the entire slab (8 by 8 feet). In the field experiment the distance of load distribution was measured only in a longitudinal direction. When placed upon the concrete pavement, the load was distributed through a distance extending more than 8 feet each side of the point of application and, when placed upon the brick pavement, the load was distributed through a distance ex- [fol. 528] tending but 2 feet each side the point of application.

These tests disclose basic pavement properties as follows:

(1) Wheel loads may be spread over much larger areas by concrete slabs than by crushed stone courses or macadams of equal thickness and (2) concrete slabs equal in area to that over which macadams of equal thickness distribute wheel loads transmit a lower maximum unit pressure to the subgrade than the macadams. This is because the total pressure exerted upon the subgrade is distributed more uniformly under concrete slabs than under macadams.

The fact that the pressure transmitted through one pavement was about five times that transmitted through the other is of minor importance, being significant only for the particular conditions of test. The difference between the

pressures transmitted through the two pavements may be larger or smaller depending upon the bearing value of the subgrade.

When for instance both pavements are laid on solid rock subgrades they will support loads of equal weight. When in contrast the pavements are raised by frost heave mounds, say about 5 feet apart, so that the intervening portions have no support whatever, the macadam pavement will fail due to its own weight. The concrete pavement, however, will not only support its own weight but in addition will carry [fol. 529] appreciable load. Thus the load capacity of both the concrete and the macadam may be approximately equal on subgrades furnishing exceptionally high support. As the subgrade becomes softer and softer, however, the greater becomes the difference between the load capacity of these two pavements.

Page 39: In the Bates tests, the brick pavement on a macadam base, referred to in Figure 1 previously described, failed under 3,500 pound wheel loads and, contrasted with this, the corresponding concrete pavement section withstood 15,000 pound wheel loads without showing any evidence of distress.

(Here follows Exhibit 3, side folios 530 and 531)

EXHIBIT 3

Traffic Tests of Bates Experimental Road Summarized

Five Runs Completed—Rear Wheel Loads Vary from 2,500 to 6,500—Sixth Run in Progress

RESULTS of tests of the 63 sections of the 2-mile Bates experimental road near Springfield, Ill., are presented herewith in the form of a table covering five traffic runs, the last of which was completed July 1, 1922. As recorded in the news section of *Engineering News-Record* April 20, 1922, p. 667, the first run, completed in April, covered 1,000 trips of motor trucks with a load of 2,500 lb. on each rear wheel and 2,250 lb. on each front wheel. It was followed by four other runs in which the rear-wheel load was increased progressively by 1,000 lb., amounting to 6,500 lb. in the fifth run, as shown in the following summary of traffic conditions:

Traffic Run No.	Rear Wheel Load, Lb.	Front Wheel Load, Lb.	Rear Tire Width, In.	Front Tire Width, In.	Path of Travel
1	2,500	2,150		1,000	Each edge of pavement.
2	3,500	2,150	1,033	2,167	627 day trips on edges, 1,540 and 1,011 night trips 2 ft. 6 in. from north side and on edge of south side
3	4,500	2,000	1,000	2,000	2 ft. 6 in. from north side and on edge of south side
4	5,500	1,900	1,000	2,000	Same as for 4,500-lb. load
5	6,500	1,000	1,000	2,000	Same as for 4,500-lb. load

The length of the Bates road is 10,800 ft. and its width is 18 ft. It consists of 63 sections, most of them 100 or 200 ft. long, surfaced with brick, asphaltic concrete and portland cement concrete of various types. The subgrade is a brown silt loam.

The results thus far indicate that if the line of traffic can be held away from the edges of pavements fewer failures will occur than when the truck wheels pass directly on the edge. It has been noted, also, that

Section	Wearing Course Thickness, In.	Base or Course, In.	Coarse Aggregate	Mix	Traffic Run No. 1 (Rear wheel load, 2,500 lb.) Total trips, 1,000	Traffic Run No. 2 (Rear wheel load, 3,500 lb.) Total trips, 3,200	Traffic Run No. 3 (Rear wheel load, 4,500 lb.) Total trips, 3,000	Traffic Run No. 4 (Rear wheel load, 5,500 lb.) Total trips, 3,000	Traffic Run No. 5 (Rear Wheel load, 6,500 lb.) Total trips, 3,000
36	3, monolithic	3	Cr. limestone	1:3:5	3 corner failures.	1 corner crack; not decisive.	2 corner failures, decisive; max. capacity exceeded	Progress in failures 5 points	Failed third test
37	3, monolithic	3	Cr. limestone	1:2:3½	1 corner failure.	No further breaks	1 corner failure approaching limit	4 add'l corner failures cap reached third test	Failed third test
38	4, monolithic	3	Cr. limestone	1:2:3½		Break in surface only, not decisive	1 corner failure, decisive; 1 intense surface break	2 add'l corner breaks	2 add'l corner failures
39	4, monolithic	4	Cr. limestone	1:3:5		No failures	4 breaks, not decisive	3 corner failures decisive	1 add'l corner failure
Portland Cement Concrete.									
	8 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	2 short cracks
	8 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	3 short cracks
	8 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	3 cracks, center to edge
43	7 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failure
44	7 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	1 corner break
45	6 (reinf.)		Cr. limestone	1:2:3½		No failures	No failures	No failures	2 corner failures
46	6 (reinf.)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
47	6 (reinf.)		Cr. limestone	1:2:3½		No failures	No failures	No failures	1 short crack
48	5 (reinf.) (same as No. 45)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
49	5 (reinf.) (Same as No. 46)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
50	5 (reinf.) (Same as No. 47)		Cr. limestone	1:2:3½		No failures	No failures	3 transv. cracks	1 corner failure 2 cracks
51	6 (reinf., wire)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
52	6 (plain)		Cr. limestone	1:2:3½		No failures	2 small cracks	3 cracks	3 stream of add'l cracks
53	5 (reinf., wire)		Cr. limestone	1:2:3½		No failures	No failures	3 cracks	1 corner failure 1 crack
54	5 (plain)		Cr. limestone	1:2:3½		No failures	No failures	3 corner failures apparently decisive failure	4 add'l cracks Failed fourth test
55	5 (plain)		Gravel	1:2:3½		1 corner failure	2 corner failures decisive capacity reached under second test	1 add'l corner failure several cracks failed second test	
56A	5 (plain) (2% Cal. chl. mix)		Cr. limestone	1:2:3½		No failures	1 corner failure	Failed decisively third test	
56B	5 (plain) (2% Cal. chloride)		Cr. limestone	1:2:3½		1 corner failure decisive	Several new cracks not decisive	Additional cracks	3 add'l cracks Considered failed, fifth test
57	5 (plain) (Cemite cement)		Cr. limestone	1:2:3½		1 corner failure (decisive)	1 corner failure, decisive, failed decisively		
58	6 cr. 4 stone base		Cr. limestone	1:2:3½	2 corner failures	No failures	1 add'l corner failure not decisive	2 add'l corner failures	2 add'l corner failures Failed fourth test
59	6 (plain) (Cemite cement		Cr. limestone	1:2:3½	2 corner failures.	2 add'l corner failures prog. breaking decisive	3 add'l corner failures considered failed under second test		
60	6 (2% Cal. chloride added		Cr. limestone	1:2:3½		No failures	2 corner failures considered failed decisively	5 corner failures	
61A	6 (Hyd. lime added		Cr. limestone	1:2:3½		1 corner failure decisive	2 corner failures reached limit under second test	3 add'l corner breaks 3 cracks failed second test	
61B	6 (plain)		Cr. limestone	1:2:3½		No failures	2 corner failures decisive; considered decisively failed	1 add'l corner failure; 1 crack	
	6		Cr. limestone	1:2:3½		1 corner failure	2 corner failures decisive; considered failed decisively	3 corner failures	

Road Summarized

Five Runs Completed—Rear Wheel Loads Vary from 2,500 to 6,500—Sixth Run in Progress

RESULTS of tests of the 68 sections of the 2-mile Bates experimental road near Springfield, Ill., are presented herewith in the form of a table covering five traffic runs, the last of which was completed July 1, 1922. As recorded in the news section of *Engineering News-Record* April 20, 1922, p. 667, the first run, completed in April, covered 1,000 trips of motor trucks with a load of 2,500 lb. on each rear wheel and 2,250 lb. on each front wheel. It was followed by four other runs in which the rear-wheel load was increased progressively by 1,000 lb., amounting to 6,500 lb. in the fifth run, as shown in the following summary of traffic conditions:

Traffic Run	Rear Load, Lb.	Front Load, Lb.	Front Tire, In.	Rear Tire, In.	Path of Travel
1	2,500	2,150		1,000	Each edge of pavement.
2	3,500	2,150	1,033	2,167	627 day trips on edges, 1,540 and 1,033 night trips 2 ft. 6 in. from north side and on edge of south side
3	4,500	2,000	1,000	2,000	2 ft. 6 in. from north side and on edge of south side
4	5,500	1,900	1,000	2,000	Same as for 3,500-lb. load
5	6,500	1,800	1,000	2,000	Same as for 4,500-lb. load

The length of the Bates road, is 10,800 ft. and its width is 18 ft. It consists of 68 sections, most of them 100 or 200 ft. long, surfaced with brick, asphaltic concrete and portland cement concrete of various types. The subgrade is a brown silt loam.

The results thus far indicate that if the line of traffic can be held away from the edges of pavements fewer failures will occur than when the truck wheels pass directly on the edge. It has been noted, also, that

Section Number	Wearing Course Thickness, In.	Type of Course	Course Aggregate	Mix	Traffic Run No. 1 (Rear wheel load, 2,500 lb.) Total trips, 1,000	Traffic Run No. 2 (Rear wheel load, 3,500 lb.) Total trips, 3,200	Traffic Run No. 3 (Rear wheel load, 4,500 lb.) Total trips, 3,000	Traffic Run No. 4 (Rear wheel load, 5,500 lb.) Total trips, 3,000	Traffic Run No. 5 (Rear Wheel load, 6,500 lb.) Total trips, 3,000
36	3, monolithic	3	Cr. limestone	1:3:5	3 corner failures.	1 corner crack; not decisive.	■2 corner failures, decisive; max. capacity exceeded	Progress in failures 5 points.	Failed third test
37	3, monolithic	3	Cr. limestone	1:2:3½	1 corner failure.	No further breaks	■1 corner failure approaching limit	4 add corner failures rap reached third test	Failed third test.
38	4, monolithic	3	Cr. limestone	1:2:3½		Break in surface only, not decisive	1 corner failure, decisive; 1 interior surface break	2 add corner breaks	2 add corner failures
39	4, monolithic	4	Cr. limestone	1:3:5		No failures	4 breaks, not decisive	1 corner failure, decisive	1 add corner failures
Portland Cement Concrete.									
	6 (plain)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	2 short cracks
	6 (plain)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	3 short cracks
	6 (plain)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	1 cracks, center to edge
65	7 (plain)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failure
66	7 (plain)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	1 corner break
65A-1	6 (reinf.)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	2 corner failures
66A-2	6 (reinf.)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	No failures
67A-3	6 (reinf.)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	1 short crack
64	5 (reinf.) (same as No. 65)		Cr. limestone	1:2:3½		No failures.	No failures	No failures	No failures
60	5 (reinf.) (Same as No. 66)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
58	5 (reinf.) (Same as No. 67)		Cr. limestone	1:2:3½		No failures	No failures	3 transv. cracks	1 corner failure 2 cracks
53B	6 (reinf., wire)		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failures
52	6 (plain)		Cr. limestone	1:2:3½		No failures	No failures	2 small cracks	Extension of old cracks
53B	5 (reinf., wire)		Cr. limestone	1:2:3½		No failures	No failure	3 cracks	1 corner failure, 1 crack
56	5 (plain)		Cr. limestone	1:2:3½		No failures	No failures	■3 corner failures apparently decisive failure	4 add cracks, failed fourth test
55	5 (plain)		Gravel	1:2:3½	■1 corner failure	2 corner failures decisive, capacity reached under second test		1 add corner failure, several cracks, failed second test.	
56A	5 (plain) (6% Cal. chloride)		Cr. limestone	1:2:3½		No failures	■1 corner failure	Failed decisively, third test	
56B	5 (plain) (2% Cal. chloride)		Cr. limestone	1:2:3½		1 corner failure decisive	Several new cracks not decisive	Additional cracks	■1 add cracks. Considered failed, fifth test
57	5 (plain) (Cemite cement)		Cr. limestone	1:2:3½		1 corner failure (decisive)	■1 corner failure, decisive; failed decisively		
58	4 cone 4 stone base		Cr. limestone	1:2:3½	2 corner failures	No failures	1 add corner failure not decisive	■2 add corner failure	2 add corner failures, failed fourth test.
59	4 (plain) (Cemite cement		Cr. limestone	1:2:3½	2 corner failures.	■2 add corner failure past breaking decisively	3 add corner failures considered failed under second test		
60	6 (Cal. chloride added		Cr. limestone	1:2:3½		No failures	■2 corner failures considered failed decisively	5 corner failures	
61A	4 (Hyd. lime added		Cr. limestone	1:2:3½		■1 corner failure, decisive	2 corner failures reached limit under second test	3 add corner breaks 3 cracks failed second test	
61B	4 (plain)		Cr. limestone	1:2:3½		No failures	■2 corner failures, decisive; considered decisively failed	1 add corner failure; 1 crack	
	4		Cr. limestone	1:2:3½		1 corner failure	■2 corner failures, decisive; considered failed decisively	5 corner failures	
62A	7		Gravel	1:2:3½		No failures	No failures	No failures	1 transv. crack
62B	7		Cr. limestone	1:2:3½		No failures	No failures	No failures	No failure

Note 1. Tr. and long. dividing planes formed by strips of corr. gal. iron.
Note 2. Rein. reinf. 1 in. placed 2 in. from top and 6 in. from edges.
Note 3. Wire mesh, 45 lb. per 100 sq. ft.
Note 4. Long. joint full length of section; ½-in. bars, 5 ft. long, and 10 ft. centers across long. joint; ½-in. bars 6 in. from edges.

Results of Tests of Rates Experimental Road in Illinois After Fifth Traffic Run Was Completed, July 1, 1922

(■ indicates complete failure)

Test No.	Wearing Course Thickness, In. Brick	Wearing Course Thickness, In. Cushion	Base Course, In.	Coarse Aggregate	Mix	Traffic Run No. 1 (Rear wheel load, 2,500 lb.) Total trips, 1,000	Traffic Run No. 2 (Rear wheel load, 3,500 lb.) Total trips, 3,200	Traffic Run No. 3 (Rear wheel load, 4,500 lb.) Total trips, 3,000	Traffic Run No. 4 (Rear wheel load, 5,500 lb.) Total trips, 3,000	Traffic Run No. 5 (Rear Wheel load 6,500 lb.) Total trips, 3,000
Lug and Lugless Brick, Bituminous Filler, Macadam Base.										
1A	4, lug	2, sand	4	Cr limestone			■after 1,000 loads	EXHIBIT	3	
1B	4, lugless	2, sand	4	Cr limestone			■after 1,000 loads			
2	4, lug	2, sand	4	Cr limestone			■after 1,000 loads			
3	4, lug	2, sand	4	Cr limestone			■after 1,000 loads			
4	4, lugless	1, mastic	5	Cr limestone			■after 1,500 loads			
5	4, lugless	2, mastic	5	Cr limestone			■after 1,500 loads			
Asphaltic Concrete, Macadam or Novaculite Base.										
6	2, Topeka		10	Macadam			1 failures	■5 Add. failures; base reached max. carrying cap.	5 add. points incip. failure; max. carrying cap. reached, third test	Failed under third test
7	2, Topeka		8	Macadam			■6 failures, decisive	8 failures, 9 incip failures; max. carrying cap. exceeded.	2 add. points failure; 3 add. pts. incip. failure.	
8	1½, Topeka 1½, binder		3	Macadam			No failures	2 add. points incip failure.	2 add. points incip. failure.	7 add. pts of failure; max. cap reached.
9	2, Topeka		6	Macadam			6 points incip failure	2 add. points incip. failure.	■11 pts. add failure; 5 pts. add. incip. failure.	
10	2, Topeka		4	Novaculite		■after 800 loads	after 5,200 loads			
11	2, Topeka		4	Macadam		1 failures				
Asphaltic Concrete, Portland Cement Concrete Base, 6-in curbs.										
12A	2, Topeka		4	Cr limestone	1:3:5		■Cracks thru curb	No. add. breaks; curb cracks not serious.	■1 corner failure; decisive break	3 add. corner failures; 2 add. cracks; failed fourth test.
12B	2, Topeka		5	Cr limestone	1:3:5		Cracks thru curb	No. add. breaks; curb cracks not serious.	No add. failures.	No add. failures.
13	1½, Topeka 1½, binder		4	Cr limestone	1:3:5		Cracks thru curb	1 add. curb crack; previous curb cracks not serious	1 corner failure; decisive break.	1 add. crack in curb and base.
14	2, Topeka		4	Cr limestone	1:2:3½		1 corner break, curb cracks	1 add. curb and base crack; previous cracks not serious.	■1 add. corner failure; decisive.	1 add. corner failure; failed under fourth test.
15	1½, Topeka 1½, binder		4	Cr limestone	1:2:3½		No failure. 2 curb cracks	No add. failures.	■1 corner failure; decisive.	1 add. corner failure; 2 curb and base cracks; failed fourth test.
16	2, Topeka		5	Cr limestone	1:3:5		No failure	No. add. failures.	No failures.	1 corner failure decisive.
17	2, Topeka		5	Cr limestone	1:2:3½		No failure	No. add. failures.	No add. failures.	No add. failures.
18	1½, Topeka 1½, binder		5	Cr limestone	1:2:3½		No failure	No add. failures.	1 corner failure; decisive break.	No add. failures.
19	2, Topeka		6	Cr limestone	1:3:5		No failure	No add. failures; 1 curb crack.	No. add. failures.	No add. failures.
20	2, Topeka		6	Cr limestone	1:2:3½		No failure	No add failures	No failures.	No add. failures.
21	2, Topeka		7	Cr limestone	1:2:3½		No failure	No add. failures.	1 corner failure; not decisive.	1 add. corner failure; not decisive
22	1½, Topeka 1½, binder		8	Cr limestone	1:2:3½		No failure	No add. failures.	No failures.	No failures.
Lug and Lugless Brick, Bituminous Filler, P. C. Conc. Base, 6-in Curbs.										
23A	3, lug	1, sand	6½	Cr limestone	1:2:3½		No failures	No add. failures.	No add. failures.	No add. failures.
23B	3, lugless	1, sand	6½	Cr limestone	1:2:3½	3 pts partial failure.	No failures	No add. failures.	No add. failures.	No add. failures.
24	3, lug	1, sand	5½	Cr limestone	1:2:3½		No failures	No add. failures 1 curb crack	No add. failures.	No add. failures.
25	3, lugless	1, mastic	5½	Cr limestone	1:2:3½		No failures.	No add. failures.	No add. failures.	No add. failures.
26A	4, lug	1, sand	4	Cr limestone	1:2:3½		2 curb and base cracks	1 add. corner break; max. cap. reached under second load test	Previous damage not decisive	1 progressive break
26B	4, lugless	1, sand	4	Cr limestone	1:2:3½		1 curb and base crack.	1 add. curb and base crack	No add. failures.	1 curb and base crack.
27	3, lug	1, sand	6½	Cr limestone	1:2:3½		■2 curb and base cracks.	No add. failures	1 add. corner failure; cap. reached second test	Failed second test.
28	3, lugless	1, sand	6½	Cr limestone	1:2:3½		2 curb and base cracks.	■1 corner failure; decisive	1 add. corner failure; cap. reached third test	Failed third test
29A	3, lug	1, sand	6½	Cr limestone	1:3:5		■2 curb and base cracks.	2 add. corner failure; 1 curb and base crack; limit reached prev. test	1 add. corner failure; considered failed second test.	Failed second test
29B	3, lugless	1, sand	6½	Cr limestone	1:3:5		3 curb and base cracks.	No add failures	No add failures.	2 corner failure decisive.
30	3, lug	1, sand	5½	Cr limestone	1:2:3½		■2 corner failures and 1 break (decisive)	1 add corner failure. 1 curb and base crack; limit reached prev test	1 add curb and base crack; considered failed second test	3 add. corner failures. Failed second test.
31	3, lugless	1 sand cem	5½	Cr limestone	1:2:3		1 curb and base crack.	No add failures	No add failures.	Progressive breaking
32A	3, lug	1, sand	5½	Cr limestone	1:3:5		2 corner failures; 2 curb and base cracks; decisive	1 curb and base crack; limit reached under second test	No add failures.	Progressive breaking
32B	3, lugless	1, sand	5½	Cr limestone	1:3:5		1 corner failure; 1 curb and base crack.	No add failures; max cap not reached	No add. failures.	1 add. corner failure, decisive
Lug Brick, Monolithic and semi-Monolithic, P. C. Conc. Base.										
33	Monolithic		2	Cr limestone	1:2:3½	■Initial corner brks	3 initial corner failures; critical load previously reached	Decisive failure under first test		

Results of Tests on Main Experimental Road at Arlington After Fifth Traffic Run Was Completed, July 1, 1922

(■ indicates complete failure)

Section	Wearing Course Thickness, In. Brick	Wearing Course Thickness, In. Cushion	Base Course, In.	Coarse Aggregate	Mix	Traffic Run No. 1 (Rear wheel load, 2,500 lb.) Total trips, 1,000	Traffic Run No. 2 (Rear wheel load, 3,500 lb.) Total trips, 3,200	Traffic Run No. 3 (Rear wheel load, 4,500 lb.) Total trips, 3,000	Traffic Run No. 4 (Rear wheel load, 5,500 lb.) Total trips, 3,000	Traffic Run No. 5 (Rear wheel load 6,500 lb.) Total trips, 3,000
Lug and Lugless Brick, Bituminous Filler, Macadam Base.										
1A	1. lug	2. sand	4	Cr limestone			■after 1,000 loads	EXHIBIT		3
1B	1. lugless	2. sand	4	Cr limestone			■after 1,000 loads			
2	4. lug	2. sand	4	Cr limestone			■after 1,000 loads			
3	4. lug	2. sand	4	Cr limestone			■after 1,000 loads			
4	4. lugless	1. mastic	8	Cr limestone			■after 1,500 loads			
5	1. lugless	2. mastic	8	Cr limestone			■after 1,500 loads,			
Asphaltic Concrete, Macadam or Novaculite Base.										
6	2. Topeka		10	Macadam			4 failures	■5 Add. failures; base reached max. carrying cap.	5 add. points incip. failure; max. carrying cap. reached, third test	Failed under third test
7	2. Topeka		8	Macadam			■6 failures, decisive	8 failures, 9 incip failures; max. carrying cap. exceeded	2 add. points failure; 5 add. pts. incip. failure.	
8	1½. Topeka 1½. binder		8	Macadam			No failures	2 add. points incip failure.	2 add. points incip. failure.	7 add. pts. of failure; max. cap reached
9	2. Topeka		6	Macadam			6 points incip failure	2 add. points incip failure.	■11 pts. add. failure; 5 pts. add. incip. failure.	
10	2. Topeka		4	Novaculite		■after 800 loads	after 3,200 loads			
11	2. Topeka		4	Macadam		3 failures				
Asphaltic Concrete, Portland Cement Concrete Base, 6-in curbs.										
12A	2. Topeka		4	Cr limestone	1:3:5		Cracks thru curb	No. add. breaks; curb cracks not serious.	■1 corner failure; decisive break.	3 add. corner failure; 2 add. cracks; failed fourth test.
12B	2. Topeka		5	Cr limestone	1:3:5		Cracks thru curb	No. add. breaks; curb cracks not serious.	No add. failures.	No add. failures.
13	1½. Topeka 1½. binder		4	Cr limestone	1:3:5		Cracks thru curb	1 add. curb crack; previous curb cracks not serious	1 corner failure; decisive break.	1 add. crack in curb and base.
14	2. Topeka		4	Cr limestone	1:2½		1 corner break, curb cracks	1 add. curb and base crack; previous cracks not serious.	■1 add. corner failure; decisive.	1 add. corner failure; failed under fourth test.
15	1½. Topeka 1½. binder		4	Cr limestone	1:2½		No failure, 2 curb cracks	No add. failures.	■1 corner failure; decisive.	1 add. corner failure; 2 curb and base cracks; failed fourth test.
16	2. Topeka		5	Cr limestone	1:3:5		No failure	No. add. failures.	No failures.	1 corner failure decisive.
17	2. Topeka		5	Cr limestone	1:2:3½		No failure	No. add. failures.	No add. failures.	No add. failures.
18	1½. Topeka 1½. binder		5	Cr limestone	1:2:3½		No failure	No add. failures.	1 corner failure; decisive break.	No add. failures.
19	2. Topeka		6	Cr limestone	1:3:5		No failure	No add. failures; 1 curb crack.	No add. failures.	No add. failures.
20	2. Topeka		6	Cr limestone	1:2:3½		No failure	No add failures	No failures.	No add. failures.
21	2. Topeka		7	Cr limestone	1:2:3½		No failure	No add. failures.	1 corner failure; not decisive.	1 add. corner failure; not decisive
22	1½. Topeka 1½. binder		8	Cr limestone	1:2:3½		No failure	No add. failures.	No failures.	No failures.
Lug and Lugless Brick, Bituminous Filler, P. C. Conc. Base, 6-in Curbs.										
23A	3. lug	1. sand	6½	Cr limestone	1:2:3½		No failures	No add. failures.	No add. failures.	No add. failures.
23B	3. lugless	1. sand	6½	Cr limestone	1:2:3½	3 pts. partial failure.	No failures	No add. failures.	No add. failures.	No add. failures.
24	3. lug	1. sand	5½	Cr limestone	1:2:3½		No failures	No add. failures 1 curb crack	No add. failures.	No add. failures.
25	3. lugless	1. mastic	5½	Cr limestone	1:2:3½		No failures.	No add. failures.	No add. failures.	No add. failures.
26A	4. lug	1. sand	6	Cr limestone	1:2:3½		2 curb and base cracks	1 add. corner break; max cap reached under second load test	Previous damage not decisive.	1 progressive break
26B	4. lugless	1. sand	6	Cr limestone	1:2:3½		1 curb and base crack.	1 add. curb and base crack	No add. failures.	1 curb and base crack.
27	3. lug	1. sand	6½	Cr limestone	1:2:3½		■2 curb and base cracks.	No add failures	1 add. corner failure; cap. reached second test	Failed second test.
28	3. lugless	1. sand	6½	Cr limestone	1:2:3½		2 curb and base cracks.	■1 corner failure decisive	1 add. corner failure; cap. reached third test	Failed third test
29A	3. lug	1. sand	6½	Cr limestone	1:3:5		■2 curb and base cracks.	2 add. corner failures; 1 curb and base crack; limit reached prev. test	1 add corner failure; considered failed second test.	Failed second test
29B	3. lugless	1. sand	6½	Cr limestone	1:3:5		3 curb and base cracks.	No add failures	No add failures.	2 corner failure decisive.
30	3. lug	1. sand	5½	Cr limestone	1:2:3½		■2 corner failures and 1 break (decisive)	1 add corner failure, 1 curb and base crack; limit reached prev. test	1 add curb and base crack; considered failed second test	3 add. corner failures. Failed second test.
31	3. lugless	1 a'd cem	5½	Cr limestone	1:2:3		1 curb and base crack	No add failures	No add failures.	Progressive breaking
32A	3. lug	1. sand	5½	Cr limestone	1:3:5		2 corner failures; 2 curb and base cracks; decisive	1 curb and base crack, limit reached under second test	No add failures.	Progressive breaking
32B	3. lugless	1. sand	5½	Cr limestone	1:3:5		1 corner failure; 1 curb and base crack.	No add failures.	No add. failures.	1 add. corner failure, decisive
Lug Brick, Monolithic and semi-Monolithic, P. C. Conc. Base.										
33	3. monolithic		2	Cr limestone	1:2:3½	■Initial corner brks	3 initial corner failures; critical load previously reached	Decisive failure under first test		
34A	3. semi-monolithic	2 conc. sand	2	Cr. limestone	1:2:3½	11 corner failures	■6 corner cracks	Considered failed under second test		
34B	3 Conc. Intersection			Not a test section						
35	4. monolithic		2	Cr limestone	1:2:3½	2 corner failures	■1 add. corner failure; 2 corner breaks; decisive failure	Considered failed under second test		

[fol. 532] EXHIBIT IV.

Statement Showing Miles of Various Types of Texas State Highways as of August 31, 1930, as Segregated Between Rigid and Non-rigid Types

Types	Miles	% of total
Non-rigid group:		
Unimproved—total	5,915.32	31.9
Grading & Structures—Total	2,046.17	11.0
Surface, Sand clay	206.01	1.1
Surface, Gravel	1,686.74	9.2
" Caliche or Disinteg. L. Stone	309.39	1.7
" Shell	320.88	1.7
" Macadam	40.22	0.2
" Iron ore soil	690.33	3.7
Surface Total	3,250.57	17.6
Bituminous, Sgl. Tr. on shell	43.91	0.2
" " " Caliche or L. Stone	223.06	1.2
" " " Iron Ore soil	69.21	0.4
" " " Gravel	1,538.51	8.3
" " " Macadam	260.96	1.4
Bituminous Sgl. Tr.—Total	2,135.65	11.5
Bituminous, Dbl. or Trpl. on Cal. of L. Stone	85.09	0.5
Bituminous, Dbl. or Trpl. on Iron ore soil	324.81	1.7

[fol. 533]

Bituminous Dbl. or Trpl. on Gravel	632.69	3.4
" " " " " Macadam	462.83	2.5
Bituminous, Dbr. or Trpl.—Total	1,505.42	8.1
Asphalt, L'stone, rock on gravel	609.60	3.3
" " " " Macadam	175.27	0.9
Asphalt, L'stone rock—total	784.87	4.2

Types	Miles	% of total
Asphalt, 2 course rock on gravel...	95.56	0.5
" " " " " macadam.	5.15	0.1
Asphalt, 2 course rock—total	100.71	0.6
Asphalt, hot mix L'stone on gravel...	38.40	0.2
" " " " " macadam	64.38	0.4
Asphalt, hot mix L'stone—Total	102.78	0.6
Asphalt Macadam on gravel	76.47	0.4
" " " macadam	317.78	1.7
Asphalt Macadam—Total	394.25	2.1
Asphaltic concrete on gravel	34.50	0.2
" " " macadam	150.90	0.8
Asphaltic concrete—Total	185.40	1.0
Brick on Macad. Cone Shtar	7.77	0.1
" " " Non Rigid Shtar	20.00	0.1
Total non-rigid group	16,448.91	88.8
[fol. 534] Rigid Group:		
Concrete Asph. L'mstone Rock on	36.98	0.2
" 2 course rock on	37.68	0.2
" Asph. Hot Mix L'mstone on.	24.00	0.1
" Asphaltic concrete on	1.19	....
" Sheet asphalt on	11.70	0.1
" Brick on	32.40	0.2
" Pavement plain	226.59	1.2
" " Reinforced	1,707.57	9.2
Concrete—Total	2,078.11	11.2
Total rigid group	2,078.11	11.2
Grand total	18,527.02	100.0

My name is GEORGE A. KNAPP. I am the George A. Knapp who has heretofore made an affidavit for use in the

case in which this affidavit is being used, my qualifications and experience as an engineer being fully set forth in such previous affidavit.

Within the past ten days I have made an examination in conjunction with certain officials of the State Highway Department of certain records of the State Highway Department at Austin with reference to the safe carrying capacity of many of the bridges in the State of Texas. Those records show the following facts to be true:

[fol. 535] About the year 1925 the Highway Department began a series of surveys covering different bridges which had been acquired by the State of Texas from the different counties of the State. Each of these surveys pertain to only one bridge. The total number of such surveys which were covered by the examination was 122, exclusive of those surveys of bridges which have since been renewed. This number constituted all such bridges on which the Highway Department had made surveys.

Attached to this affidavit and made a part hereof is an exhibit which clearly shows information with reference to each of the bridges covered by such surveys including the safe load that can be carried by each of such bridges.

In connection with the exhibit, the following should be borne in mind:

(a) The exhibit shows only bridges taken over by the State from the different counties which are located on State designated highways.

(b) The exhibit does not include, of course, all bridges located on State designated highways inasmuch as many of such bridges have not been surveyed and, furthermore, inasmuch as many of the bridges now maintained on the State designated highways were not taken over by the State from the counties but were built by the State itself.

(c) The exhibit, as a general proposition, presents a pic-
[fol. 536] ture which is generally true with reference to a very great majority of all the County bridges located upon County highways as distinguished from State designated highways.

I am thoroughly acquainted with Section 5 of House Bill 336 as passed by the Legislature of the State of Texas in 1931. For the purpose of this affidavit I refer particularly

to those provisions of House Bill 336 which permit the carrying of a net load of 7,000 pounds on any vehicle or combination of vehicles.

A study of the exhibit attached hereto makes it clear, beyond any question of a doubt, that on a very great majority of the bridges covered by the surveys referred to in such exhibit, it would be unsafe to carry a vehicle or combination of vehicles with a net load of more than 7,000 pounds.

Furthermore, bearing in mind the fact that, as a general rule, county bridges which are not located on State designated highways are inferior to bridges located on such highways, it is my opinion that the very great majority of County bridges which have not been taken over by the State could not safely support the weight of a vehicle or a combination of vehicle carrying a net load of 7,000 pounds. I am assuming, as a basis for this statement, the lowest weight vehicle or combination of vehicles usually used in the transportation of such net loads.

(The exhibit attached to the foregoing affidavit is set out [fol. 537] in full on pages 203 to 206.)

To the foregoing schedule of bridges, showing safe load capacities, the complainants object in the manner and on the ground heretofore stated.

My name is G. A. KNAPP. I am an engineer by profession and I am employed by the railroads, at the present time in the employ of the Southern Pacific Company, Houston, Texas.

I have made a study of various records including a publication by the U. S. Department of Commerce entitled "Stowage of Ships Cargoes," 1920, with special reference to the kind and character of commodities that are prepared for transportation in boxes, containers and packages weighing more than 500 pounds and containing more than 30 cubic feet.

Attached hereto and made a part hereof as though copied herein is Exhibit A which contains a list of such commodities.

(Exhibit A attached to the foregoing affidavit enumerates automobiles, buggies, carriages, desks, various kinds of agricultural machinery, approximately 150 different kinds of commodities, as being commodities that are prepared for transportation in boxes, containers and packages, weighing more than 500 pounds and containing more than 30 cu. ft., as per the records from the United States Department of Commerce entitled "Stowage of Ships Cargoes, 1920.")

[fol. 538] R. A. THOMPSON was thereupon called as a witness on behalf of the respondents and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Cook:

I live at Dallas; my profession is civil engineering; I am a graduate of the University of Texas; I have been practicing my profession about thirty-five years. My principal experience with the State was I was chief engineer with the Railroad Commission of Texas for about nine or ten years, between 1898 and 1909, and, I went to Wichita Falls with Kemp & Kell interests for about two years, and built between two and three hundred miles of railroad in Western Texas and Oklahoma. In 1911 I went to California as chief engineer of the California Public Utilities Commission. I was with that Commission for about a year and a half and went with the Interstate Commerce Commission as a member of the Board of Valuation Engineers engaged in the valuation of railroads in the United States, having charge of what was known as the Pacific District Office of San Francisco. I was with the Interstate Commerce Commission about eight years when the district offices were consolidated in Washington. I came back to Texas and built two dams and an irrigation system for the Wichita County Water Improvement District. Afterwards I went to Dallas [fol. 539] and had charge of the construction of the Gaiza Dam. From January 1927 to 1928 I was State Highway Engineer at Austin. I went back to Dallas and was con-

sulting engineer, and the past four years have been employed by the Chamber of Dallas as Consulting Highway Engineer. At the present time I am chief engineer of the Wichita Falls and Southern Railroad. I have had no railroad experience outside of what I mentioned with the Railroad Commission and with the Kemp & Kell interests at Wichita Falls.

In the practice of my profession at this time currently I keep up to date and advise on highway matters. I have close contact with the State Highway Engineers, local, resident and division engineers engaged in highway maintenance and construction in North Texas; that is a part of my duties as engineer for the Dallas Chamber of Commerce, to keep in close touch with the highway situation.

I am thoroughly familiar with the specifications for rigid type construction highways in the State of Texas at this time; there is a standardized specification for that purpose used by the State Highway Department; all contracts for highway construction are made under standard specifications which, I might say, have the approval of the Bureau of Public Roads. Any highway that is built, to which the Bureau funds are applied, must be built under specifications approved by the Bureau of Public Roads.

[fol. 540] All highways built within recent years have been constructed in accordance with the present specifications; I might say at least five or six years; the specifications from time to time have been modified. All constructive state highways and federal highways, which includes federal highways, have been built in accordance with these specifications.

On August 31, 1930, the State Highway Department reported 19,169 miles of highway as being maintained by the State Highway Department; that does not include all the designated highways; there are some highways that have been designated as State highways that are not being maintained, but this is regarded as representing the State Highway System today. Of those highways, 2,045 are concrete, concrete base, either plain or reinforced, or with asphalt surface; 5,209 miles are bituminous surface, concrete, of various types of asphalt and macadam, and they are included in what we term to be our hard-surfaced roads today, making a total of about 7,300 miles of hard-surfaced roads out of a total of 19,168 miles. However, I might say this,

that 641 miles of the total mileage is within the city limits, most of which is paved also.

The rigid type road is not uniform in load carrying capacity; the older types of the concrete were either uniform base clear across the slab, or some of that pavement is thicker in the center than it is at the edges; at one time some highway engineers got the notion that the concrete [fol. 541] pavement ought to be thicker in the center than it was out at the edges. After extensive experiments in Illinois and Iowa that was shown to be a fallacy and the result of these experiments was to revolutionize the design of standard concrete pavement which provided thicker edges than at the center. Now, I haven't the figures with me. I would say from a half to two-thirds of the concrete pavement in Texas today is of the more modern type.

In considering the load carrying capacity of even the rigid type roads, you are not limited in your inquiry just to the specifications for the concrete, you have many factors entering into road design.

Soil conditions affect largely the reinforcement that is used in the concrete; the more reinforcement is used where soil conditions are bad than where it is stable.

Soil conditions have a great deal of influence affecting a rigid type road; on a gumbo soil or sandy soil the pavement is more likely to settle or wave under load; settling, of course, brings about beam action under load, causes the load to concentrate over a certain place and the effect of the load then is to break the base of the concrete down, also tends to break the edges down.

In most pavements, I don't think moisture has much influence; on the edges moisture softens the edges and contributes to settlement.

[fol. 542] In gumbo soil the soil drys out and shrinks and settles away from the slab in extreme dry weather, creating a place under there, a hole or vacuum, a void there, which facilitates settling.

Considering the rigid type of construction of highways in Texas, my knowledge of them, and the variations in their construction, and the variation in the sub-surface, and other factors that might enter into it, I am of the opinion that there should be some weight regulation of the loads that go over those highways.

I am familiar with the fact that the Legislature of Texas in its recent enactment, House Bill 336, has fixed the maximum net load of 7,000 pounds.

I have examined some of the tables showing the weight of trucks; I never weighed any trucks. It is open to investigation and determination as a fact, and the Legislature could have had available, whether it did or not, that information that the trucks in commercial traffic on the highways have a certain average weight. If you apply the average weight, or if you take the maximum, whichever way you approach it, and combine that with 7,000 pounds net load, you affect a definite limitation of the burden imposed upon the highway, and in that fashion afford a protection to that highway.

Rigid types, built in accordance with standard specifications, to my mind, might safely carry loads somewhat or [fol. 543] slightly in excess of 7,000 pounds; in other words, a factor of safety is greater in rigid types of roads than it would be iff some other type of roads, especially of the modern specifications.

The factor of safety would simply be smaller with regard to the older types, with more than 7,000 pound loads.

The next lower grade of road in the Texas highway system consists of about 5210 miles. In my opinion this 7,000 pound maximum load is a reasonable regulation of weight imposed on that highway, having in mind the two factors, preserving the highways against too rapid deterioration and excessive maintenance. I think that reasonably arrives at the apparent purpose. The second type road to which I have referred, the hard-surface but not of the rigid type, will carry probably as much load safely as the rigid, but there would be more wear and tear and an excessive maintenance cost; that is one of the big factors in consideration of the whole problem.

The wear and tear on the lower type road, what we term the clay, sand, shell, and macadam-surfaced road, of which there are some 3,250 miles, is to increase maintenance charges and prevent maintaining of this class of highways in as good condition for both safety and speed as the other roads would be maintained in. It simply adds to the element of maintenance and desirability to travel over them. You [fol. 544] don't have that element of large permanent investment, but you do have from month to month a constant

factor of maintenance cost. The maintenance is much heavier on that type of road than it is on either of the other types of hard-surfaced roads, either the flexual-base type or the rigid type. Weight imposed bears a substantial relation to that maintenance cost, and it varies upward with the weight and the amount of traffic.

I think a 7,000 limitation as applied to that type of road, in my opinion, is a reasonable regulation, and one adapted to bring about the purpose the Legislature apparently had in its mind.

From my information and experience in the Highway Department, bridges that have been recently built within the last, say ten years, have been built to carry safely much heavier loads than bridges formerly built, particularly those bridges that were inherited by the State Highway Commission on the counties on the old county roads. We have a great many of those bridges in the state built on much weaker specifications and designed to carry much lighter loads than what we term present-day loads, and many of those bridges are overloaded under the present traffic and are dangerous. The Highway Department has in a number of instances, posted signs on these bridges warning the people who are driving trucks or heavy loads against putting loads over them heavier than certain specified weights. In other words, there will be a sign on it [fol. 545] "Bridge not safe for loads in excess of five tons." A great many bridges in this State have been placarded with signs of that kind by the State Highway Department.

That takes into account a safety factor; it is essential, some safety factor is taken into account. If you multiply loads from day to day over the particular bridge that is considered weak, in excess of the load that is regarded as within the safety factor, you substantially increase the hazard of the bridge breaking down.

Busses operating at such intervals as they may, and then add to it a substantial amount of heavily loaded truck traffic in excess of the permissible, that would increase the chances of the bridge failing; the more traffic you put over it, the sooner the bridge is going to fail. In this weight that is posted on the bridge or bridges in some instances, is included a factor of safety. A bridge may be posted for five tons and at the same time you can drive ten tons over it and it stands up. But the Highway Department is sim-

ply preserving the factors of safety. I have examined the provisions of House Bill 336 with respect to the height of this vehicle including the load; I am familiar with the conditions in Texas that make regulation of height of vehicles and load necessary. The length of a vehicle, to my mind, affects the safety in passing long vehicles, particularly in passing at turns or curves.

[fol. 546] We do not have an entire highway that is consistently one type, not across the state; in going from Houston to Dallas or Fort Worth you would travel over practically every variety of road. We have longer paved highways in Texas, but an example would be United States Highway 80, from Shreveport to El Paso; probably we would have every type of pavement on that highway. Between Houston and San Antonio I think all sections are paved; we have no dirt sections. Some gravel sections there unless they have been repaired recently. Bituminous tops. Houston to Austin the same thing; it is paved all the way but with different types of hard-surfaced pavement. These illustrations are fairly representative of conditions throughout the State. Practically all the State system was taken over from counties. There had been some construction already on the improved highways which was actually taken over by the State.

Taking the entire system now and viewing it from the viewpoint of the Legislature having authority to regulate for the system as a whole, in my opinion a 7,000 pound net load weight limitation is very reasonable. The total of 187,000 miles of highway reported by the United States Bureau of Public Roads as of 1929, contains about 20,000 miles of state highway. A very small proportion of county highways are improved in the sense that any of them have been paid. In my opinion, it would take about a half bil-

[fol. 547] lion dollars to bring the entire state highway system up to that standard that has been under discussion here, that is, in accordance with the specifications for more modern type of rigid construction, including asphalt as well as concrete.

Cross-examination.

By Mr. Brown:

I was State Engineer for the Highway Commission of Texas from January, 1927 to January, 1928. I don't re-

call how many miles of concrete highway there were in the state when I took office, probably a thousand or twelve hundred miles. Approximately half of the concrete highway construction in Texas has been built either during the time that I was Highway Engineer or since.

I did not state that the entire Highway system was constructed in accordance with the standards adopted by the Bureau of Public Roads. I said that specifications in use now had been approved and since the time I was engineer were approved by the Bureau of Public Roads. The present State Highway Commission has been using substantially the specifications which have been approved by the Bureau of Public Roads.

I think that there is a comparatively small percentage of the paved roads that were built in the early days that have been reconstructed; only a comparatively small amount have undergone a reconstruction. When I say in [fol. 548] the early days I mean from 1917 on; the State Highway Commission was organized in 1917. Most of those roads are still in service without substantial reconstruction. They have been reinforced and maintained and through maintenance have been strengthened considerably, but they have not been rebuilt outright. They have not been reconstructed in the sense that they have been rebuilt outright. Some of those roads have been strengthened by the addition of additional coats of asphaltic surface, and some of them have been reconstructed or maintained by digging them up again and renewing the foundations for considerable distances from the edges and restoring the edges where they have been broken down. In a sense, that is reconstruction, and in another sense, it is maintenance.

When I use the expression "excessive maintenance" I referred to that as maintenance, because the Highway Department does it with its maintenance forces and it is charged to maintenance. It is considered maintenance, and that is what I mean.

It is a fact that the State Highway System connects practically all of the important centers of population in the State of Texas. I know that the overwhelming proportion of truck traffic goes over the state highways, and not over these subsidiary and minor roads. It is also true that the federal aid highways connect all of the more important

centers of population in Texas, so that the roads which are [fol. 549] constructed or maintained in accordance with federal specifications also may be said to carry the overwhelming proportion of highway traffic.

The choice of the type of highway is possibly governed more by the money the Department has to spend than the volume of traffic which is to pass over it. Where the counties contribute, the county contributions are sometimes limited and, whereas ordinarily you would say a concrete road would be built between two points in a county or in two counties, on account of the limited county funds and limited state funds also, a cheaper type of road, an asphalt and macadam road, for instance, would be built.

The United States Government specifications apply to the type of road and they do not prescribe the types of road. Types of road are selected by the State Highway Department. As an engineer, I do not think the volume of traffic determines the question of whether gravel, bituminous, or concrete road shall be built; it should have a big influence on it, but I don't think the volume of traffic has been given the consideration it should. I would not put a concrete road where two vehicles of whatever weight travel per day. Concrete has generally been placed on the heavier traveled highways. The progression from the dirt road to the concrete has not always been in direct proportion to the in- [fol. 550] crease in the volume of traffic, not always, nor as a general rule. The State Highway Department today is building sections of the same highway out of concrete and out of asphalt macadam. That is not because of some special peculiarity in the terrain, I don't think that has anything to do with it. The matter of the amount of money available for building highways has some influence, also the Highway Department is inclined to build macadam roads with gravel base or caliche base or broken stone base in cases where the local material of that character is available.

A highway which is built out of these various materials is designed to carry the traffic that goes over it; it carries the traffic and whatever the traffic weighs it carries.

In 1927 and 1928, when I was State Engineer, I don't remember approximately the weight of vehicles; I would not hazard a guess on that. I did not design any highways personally; I approved the design of highways three years ago; I don't know for what weights they were specifically.

In the case of the concrete highways we adopted the Bates section; that means nine inches at the side and six inches in the middle, carrying wheel loads of from eight to nine thousand pounds; it will carry that. With some limitations or modifications a gravel highway will carry just as much weight as a concrete highway; you could not make a yes or [fol. 551] no answer to that. It will carry it under certain conditions.

The concrete highway costs more in capital expense but is much less in maintenance. The gravel highway costs less in capital expense, but more in maintenance; every engineer knows that. Every engineer expects maintenance in connection with anything that is to be used. One of the elements in connection with my decision as between a gravel highway and a concrete highway is that while you will have a lower first cost you will have a higher maintenance; that is one of the elements. By "excessive maintenance" of a gravel highway, I mean maintenance in excess of the ordinary maintenance. The standard for ordinary maintenance is just ordinary maintenance; it means keeping it up in good serviceable condition.

I stated that certain conditions caused excessive maintenance. The ordinary maintenance, we will say, runs around three to four hundred dollars per mile for all roads, the highway system; that is, all types of roads. I do not mean they all cost the same, that is the average. When it costs twelve or fifteen hundred dollars a mile it is excessive. I don't remember the place where the maintenance cost was fifteen hundred dollars a mile; I wouldn't be able to tell you a particular road or section of road that cost that; I do know of such a road, I know that there are instances where it cost that much. Those instances were brought to my at- [fol. 552] tention when I was State Highway Engineer; I can not recall right now a specific instance.

Those gravel roads, the surface is maintained by power machinery and keeping the gravel dragged up in the center and leveled up, keeping the weeds cut and keeping the ditches open; it means simply that when the surface is blown off you put some more gravel on or drag back and level what is there; that is largely what it means. It doesn't make any difference whether the ruts have been caused by a Ford car or by anything else; I do exactly the same thing.

The amount of maintenance would depend on the number of cars that ran over it and the weight of the cars; the more cars and the heavier cars the more maintenance.

Speed is also one of the elements. I don't think I would agree with these other engineers who say that a lighter car and higher speed will have more frictional and abrasional effect on the surface than a heavier truck at a lower speed; I don't think I would agree to that. What happens to a gravel highway is the raveling off, blowing away of the surface; that is caused by slip between the tire and the surface. I don't know that the lighter the car the greater the slip; I don't know about that.

I know what the enginering phrase "coefficient of friction" means. It means the sliding power or slipping of a weight on a surface when it is revolved, in the case of the [fol. 553] wheel of a locomotive, and the greater the weight the less the slipping; that is true. That is true about automobiles, the greater the weight the less the slipping, and the less the slip the less the abrasion. The greater the speed the greater the abrasion in the sense that probably more gravel or sand or material out of which the road is made will be thrown out, kicked out, raveled out; that is what speed does. That is not the only thing that happens to the gravel road, that the surface will be displaced and have to be put back; sometimes it is rutted and pressed down into the foundation. The raveling out of the road depends on the condition. A gravel road by being traveled over, reaches a condition of equilibrium after a time, and then there is no further improvement as to bring compressed and made firm and more able to resist weight. Running a heavy load over a surface point improves it, and then it ceases to have any effect. It does that if the surface is maintained; it is simply the surface from then on.

The United States Bureau of Public Roads approves specifications other than for concrete roads. I have had something to do with drawing such specifications; at least, I have drawn them and approved them. When I drew my specifications I did not draw them to carry traffic of any given wheel base, that did not enter particularly into the specifications. Indirectly we pay attention to weight, we don't specify weight in the specifications. They are taken [fol. 554] into account in prescribing the thickness of the

concrete and the thickness of the gravel base and surface and things of that kind. The weight I am interested in is the gross weight of the vehicle which is to pass over it. I am aware of the fact that one of the outstanding developments in commercial transportation in the last ten years has been the substitution of pneumatic for solid tires. Balloon tires have replaced pneumatic, high-pressure tires since January, 1929, very considerably; I don't know the percentage of trucks that are now equipped with balloon tires. It is true that the substitution for solid tires of pneumatic tires and the substitution for pneumatic tires or balloon tires reduced the damaging effect of any given weight upon the road. I know about these Bates tests. It is my understanding that those tests were conducted with vehicles with solid tires. I don't think the results obtained are misleading as applied to vehicles with either pneumatic or balloon tires; there might be some modification of them. I am not familiar with the tests of the Bureau of Public Roads on that; I know the tests were made. I have not made myself acquainted in detail with the scientific literature on this subject that I am offering myself as an expert on. I know the tests have been made, but I am not familiar with them in detail; I haven't got them with me. I know the effect of substituting balloon tires for solid tires is to reduce to some extent the effect of the impact; I [fol. 555] don't know how much; I haven't any idea how much. I know it reduced it but I don't know how much.

I don't think Mr. Bates' tests have been discredited at all; I think they are still applicable to modern conditions. They might be modified but not to any substantial degree; I don't know what degree in percentages or absolute figures. There has been some modification, but no very marked modification.

I know the Bates tests were made and I have seen the results of them; I have no particular results in mind.

I have knowledge of the highway construction that has been going on in Texas for the past five years, and I have personal knowledge of the types of highways that have been built and the effect of traffic on these highways, and, in a general way, the cost of their maintenance and where they have been built, the effects of loading and things of that character in a general way. I have not carried figures in my mind and don't have figures available to state specifi-

cally in pounds and percentages exactly what the effects of these matters are. I have not conducted a laboratory; I know something about what is going on in other laboratories, but I don't recall the figures that were produced. I could not give the conclusions which scientific gentlemen [fol. 556] have drawn except as exhibited today in the construction of highways in Texas, and those are highways which will carry 9,000 pounds wheel load. These signs on bridges that I told you about have been put up from time to time for several years, some of them before January 1, 1928. I do not know how many there are; I just know that there are some signs. My whole knowledge is that there are some bridges somewhere with some signs on them and that they were there before January 1, 1928, some of them. They were there when the Texas Legislature of 1929 passed a statute imposing a 22,000 pound gross weight.

I have had no other experience as a railroad engineer than as chief engineer of the Wichita Falls & Southern Railroad. Mr. C. C. Huff, attorney for the Missouri, Kansas and Texas, asked me to come here; he asked me to come and I came down here.

Redirect examination.

By Mr. Cook:

If Mr. Brown intended to include, in addition to gravel, shell and such roads, the topped road, it has required maintenance to make them serviceable. The weight of traffic has necessarily increased maintenance cost. If you prevent an enlargement of weight on these highways you will thereby limit maintenance costs to the extent that there will be lesser maintenance cost.

I understand the average maintenance cost throughout [fol. 557] the highway system of Texas is about $350.00 a mile for ordinary maintenance. I have known under special circumstances maintenance to run as high as twelve to fifteen hundred dollars a mile; let me modify that by saying that that includes what might be termed reconstruction, that means going back and digging up the surface and renewing the base and widening it at the same time. That is just highway in spots and not on a comprehensive program of reconstruction. That does not apply to the system as a whole, it is only certain particular sections of the high-

way that were built possibly earlier, of inferior types of construction, and would not apply generally; that is only special cases.

Where you have to go into the foundation and put a support there and then fill up to the top and surface, I class that as maintenance. To my knowledge there is a substantial program of that sort going on on the highways of Texas at all times, in connection with asphalt or gravel base roads.

The effect of the gross weight upon these highways other than the rigid type in wet weather, as compared with dry weather, is more noticeable, of course, on unsurfaced roads, rather than on roads that have been surfaced, in fact, on roads that have been surfaced there is no appreciable difference.

[fol. 557½] Moisture soaks in and water soaks in under the edges of the pavement and weakens the foundation, and when a truck wheel or automobile wheel gets over on the edge of it it is more susceptible to being broken down, and to that extent moisture affects it. That is the greatest effect of moisture upon surfaced roads. It softens the foundation underneath and permits the breaking down of the edges of the pavement, sometimes the center where the moisture has gotten into the pavement through cracks and otherwise.

With the weight imposed on soaked gravel or shall road, when the weight is excessive, you rut the pavement; that means crushing the foundation down, that is the principal damage, rutting it. A light Ford car would not rut it where a heavy truck or a heavy vehicle would rut it, or at least rut it more, depending on the thickness of the foundation and other factors.

On tavia roads, tarvia topping, the effect of putting weight on it on a hot summer day, it softens the asphalt and causes it to roll up and spread and corrugate; that is the biggest damage; that is a substantial impairment of the road surface, it roughens it.

Recross-examination.

By Mr. Brown:

With respect to this rutting of the road I spoke of, for the same road, the wider the tire the less the rutting.

[fol. 558] Take three hundred vehicles moving at 40 miles an hour as against a hundred vehicles twice as heavy at twenty miles an hour, over gravel road, in dry weather, the faster vehicles in my opinion would give the most damage; in wet weather the heavier vehicles would give the most damage. I am giving the sum total of the damage done by the vehicles.

J. M. Howe stated by affidavit:

I live in Houston, Harris County, Texas; I am 57 years of age and am a civil engineer by profession, being a graduate of Massachusetts Institute of Technology. I have practiced my profession since 1897, a period of 34 years, the entire time in Texas, and in Houston, Harris County, Texas, 32 years.

During that time I have been engaged as county engineer from 1911 to 1915 inclusive, and 1918 to 1927, and as consulting engineer for Harris County during 1927 and 1928.

I have had extensive experience in connection with highway construction and maintenance. I am quite familiar with the problems of highway construction and maintenance in Harris County, Texas, and am reasonably familiar with such problems throughout the State. In the performance of my duties as aforesaid, I have had occasion to take note on certain scientific information and data, particularly concerning the highways of Texas. I happen to know of the recent rapid increase in the improved high-
[fol. 559] ways of Texas, and also the substantial increase in the use of such highways, particularly the more improved highways. This increase has not only been by privately owned vehicles, but also, to a marked degree, by commercial vehicles carrying both passengers and freight. I am also familiar with most of the problems that have been under consideration by the Texas Legislature relative to the highways of the State, and to a certain extent with the scope and effect of the recent statutes enacted by the Legislaure.

My attention has been specially called to the provisions of Sec. 5 of H. B. 336, being Chapter 282 of the General Laws of Texas enacted by the 42 Legislature. It is my

information that some question is being raised as to the reasonableness of the provisions of said Article 5. I have no doubt at all that it is practically compulsory upon the State to have some regulation of weight of load in order to prevent the rapid destruction of its highways and bridges and an excess of maintenance charges. The regulation of weight also has an important relation to safety on the highways as I shall further indicate. Granting therefore that some regulation of weight is imperative, it can be seen that there might be carying opinions as to exactly what regulation would be the best. Upon careful consideration of the provisions of said Section 5, I will state in the light of my training and experience, and as a result of observation that said regulations are reasonable, and well [fol. 560] designed to obtain the purposes for which they were enacted.

Insofar as there may be argument concerning the increase or decrease of the maximum restriction specified by this article, controversy would turn upon analysis of several factors. First it is necessary to consider the entire highway system of the State, and the reasonable necessity of adopting whatever regulations are adopted to suit the system as a whole, taking into account that any limitation of maximum weight might be too low as related to the very best roads, too high as related to many roads. Highway statistics show (7th Biennial Report of the Texas Highway Dept. covering 9/1/28 to 8/31/30) that only about eleven per cent of the State designated system is of rigid type, and that approximately one per cent of the completed highway system of the State, including State Highways and County Highways is of that type. Of the rigid type there is a substantial variation in strength and character of construction involving a like variation in capacity to withstand heavy loads. The earlier concrete roads were built thick in the middle and thin on the edge, but tests made by the Illinois Highway Department in 1920 and '21 indicated that if the thickening was put on the edge of the pavement instead of in the middle it would very materially improve the load carrying capacity. Even with this more modern type of construction there is bound to be some variation in load [fol. 561] carrying capacity due to the variation in subsoil in the different sections of the State.

Of the non-rigid type of State designated highways, including bituminous topped, shell and gravel, there are 8,460 miles in the system. This is approximately 46 per cent of the total designated highway system. The remaining roads in the designated highway system consisting of 7,961 miles, or approximately 43 per cent of the total are ordinary dirt highways, graded and with drainage structures or classed as unimproved.

Of the highways not included in the designated State highway system, there are, of course, some roads of rigid type, some of the topped or gravel, or shell roads, but the great majority of such roads, not in the designated highway system, are classed as unimproved. The percentage of unimproved roads in the combined State and County systems is approximately 86 per cent. The percentage of rigid type highway to the total is approximately one per cent. From the foregoing statistics concerning the kinds of roads in Texas, and the probable load carrying capacity thereof, it can readily be seen that any weight limitation of general application would have to be adjusted to the protection of the roads of the State as a whole. From this viewpoint, I cannot see any reasonable doubt of the wisdom of the regulatory provisions under inquiry.

Another factor of importance is the strength and load capacity of the bridges in the highway system. There is [fol. 562] a wide variation in the character and strength of the bridges in the highway system of Texas, many of them being bridges originally constructed primarily for horse drawn vehicles, and not of sufficient capacity to take care of present loads. The State designated highways include a good many bridges that have not been reconstructed, and many more exist in the County Highways not forming a part of the State designated system. Taking into account the size of vehicles used in commercial traffic and the weight of loads carried thereon, it seems to me that the maximum of 7,000 pounds, net load, is certainly not unreasonably low.

Another factor of importance in connection with load limitation, is the problem of safety on the highway. Of course, nearly every variety of trucks manufactured in this country is used in commercial transportation upon the highways of Texas, with a wide variation in braking equipment. The ability to stop within a limited distance is of substan-

tial importance as affecting this problem of safety; the greater the load, there is of course, a greater momentum, and this requires more braking power. This point is aptly illustrated by the numerous cotton trucks, consisting of trucks and trailer, loaded with from 12 to 25 bales of cotton with no brake mechanism on the trailer at all. This, of course, means that the front unit must do all the braking for the entire outfit, which is a serious problem under the [fol. 563] circumstances, and for which the truck was not designed. A reduction of the net load on such an outfit would materially lessen the braking problem.

My attention has been called to other features of House Bill 336, such for instance, as the limitation of height, of width, and of length. These features do not present solely engineering problems, but do present the problems of safety on the highways, and with reference to which the purpose of the restrictions seems to be obvious. Height has a real relation to the stability of the load as affecting the likelihood of it's overturning, and in turn, of course, the habit of drivers to stay in the center of the road where there is a crown on it, which makes it difficult for other vehicles to pass. An excessive height might also impair bridge structures. The height limit in the law should bring it within the limits of overhead clearance of the bridges and underpasses on the highway system. The width limitation from an engineering standpoint has relation to the necessary width of roads to take care of passing vehicles. From this viewpoint the prescribed width of 96 inches is not only not unreasonably low, but is too wide for safety. In my opinion the 45 foot limitation on length overall, or 35 foot limitation for one unit of a motor vehicle is not unreasonably low. In fact, most of the roads have curvatures that would render even a 45 foot vehicle a hazard to other vehicles in the vicinity at the turns and sharp curves. Even with the more modern construction, with wider curves, it [fol. 564] would be unwise, in my opinion, to have a greater length than the prescribed 45 feet for a combination vehicle.

J. M. Howe was thereupon called as a witness on behalf of the respondents and, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Cook:

I live in Houston. I made an affidavit in this case.

Cross-examination.

By Mr. Francis:

I do not hold to the theory that it is necessary to protect our federal highways of concrete construction by having any limitation so low as the provisions of this House Bill 336; they should be protected but it is unreasonable with respect to those highways, in my opinion.

With respect to the highways that are in our main arteries with respect to gravel and shell and roads of that type which are a part of our state system, I don't think it is true that the main part of the damage to those roads [fol. 565] comes through the speed of vehicles rather than the weight of the vehicles; I think that on that type of roads weight is more important than speed in highway damage. That is not when the road is dry, you have to guard against it, though, when the road is wet.

When it is dry the faster, lighter vehicle will do the more damage, due to blowing away of the surface of the road, cutting it up; it does to some extent. In wet weather the rutting of the road by the vehicles depends largely upon the proportion of the gross weight of that vehicle to the tire spread.

The respondents thereupon offered in evidence certain clippings from daily newspapers concerning accidents caused by motor trucks on the highways of Texas; to which testimony complainant and interveners objected on the grounds that it is hearsay and not the best evidence, and irrelevant and immaterial, and because it relates to accidents that occurred since the passing of the legislation, and also because it is vague, indefinite and uncertain in that it does not show whether it is passenger busses or motor busses or trucks, or whose fault the accident was, and is inadmissible for any purpose, and not the best evidence; which objection was by the Court sustained, to which the respondents excepted.

[fol. 566] R. C. WAGGENER testified by affidavit as follows:

My name is R. C. Waggener. My residence is in Dallas. I am a civil engineer by profession and have had about twenty-five years of engineering experience, a large part of which has been in transportation matters. I was employed by the Texas & Pacific Railroad for 13 years, and prior to that time I was employed by the Union Pacific Railroad Company and the Western Pacific Railroad Company. I also have had six years experience in general engineering with six to eight years in electrical and mechanical engineering work, as well as financial, accounting and cost matters. I am at the present time engaged in the practice of my profession independently.

I have made a study of the facts surrounding the transportation of cotton by the complainant, J. H. McLeaish & Company. I have particularly investigated the equipment which is used by that company by examining into the State Highway Department records concerning such equipment. I find from the State records that J. H. McLeaish & Company are not recorded as owning the equipment which they state they are using. As a basis for this statement I am attaching hereto Exhibit A which is a photostatic copy of the official records of the Highway Commission in which will be found a letter of J. H. McLeaish listing the equipment which they are operating. The remainder of Exhibit consists of the Highway Commission records showing the [fol. 567] details with regard to this particular equipment.

In the first place the records do not show the complainant to be operating more than six trucks. It shows these trucks to be 1½ ton International trucks and trailers. The allegations that this equipment cost the complainant $15,000.00 is in error. Six units of this equipment can be reproduced new for $8013.00. Eight units of this combination equipment can be reproduced new for $10,684.00. Of course, I am not in position to say that complain-t did not actually pay more than the equipment is worth, but I am in position to say that it can be reproduced new for the figures given.

Complainants allege that they charged depreciation against their operating cost, therefore, their capital investment would, under the ordinary and usual rules of accountancy be reduced from year to year by the amount

of the depreciation thus charged to operating expenses. Even though they set up a depreciation reserve, they cannot, equitably claim an investment in equipment greater than new equipment of the same make and size would cost at the present time, which cost would be $10,684.00 for eight units, and $8,013.00 for six units. It is, therefore, my opinion that the alleged value of $15,000.00 cannot be sustained by the facts.

The allegations of complainant with regard to the total cost of hauling flat or uncompressed bales of cotton by [fol. 568] motor truck and trailer from Weimar and the surrounding territory in Colorado County to Houston, are, if we apply mathematical standards, obviously in error. It is alleged that complainants, for a haul of approximately 100 miles, under existing operating conditions, have a per bale cost of $1.00. It is further alleged that said cost per bale is conditioned upon complainants' loading from 20 to 25 bales upon each combination truck and trailer, and that if they are required to reduce their loading from 20 to 25 bales per load to 13 bales per load, their cost per bale for the same trip will be increased to approximately $2.00 per bale. Such a statement is obviously erroneous. It is only necessary to consider the facts as applied to the alleged cost to arrive at the conclusion that the complainants have made an extravagant allegation in this regard.

First, it should be remembered that the requirements of law change only the loading of the vehicles which reduces the load to 14 or 13 bales. Assuming, therefore, that all other conditions would be the same, the ratio of per bale cost, as set forth in the allegations, is in error. If we use an average weight of a Texas bale of cotton which is about 518 pounds, and average complainants' loadings of 20 to 25 bales on the basis of 22½ bales per load, we obtain the total weight under the present conditions of 11,655 pounds per load. Calculating the load on the same aver- [fol. 569] age weight per bale, 13 bales will produce an average load of 6,734 pounds. 13 bales load, therefore, is 42¼ per cent less than a 22½ bale load. The cost of a trip with an average load of 22½ bales according to complainants' allegations is $22.50. The cost of the same trip, assuming all other conditions to be the same except the reduction of the load is, according to complainants'

allegations, $26.00. Complainants' allegations, therefore, are that a net load of 42¼ per cent less than the present net load would in effect add 12½ per cent to the present cost per trip. This is an irrational and erroneous result and is clearly in error. A 42¼ per cent reduction in the load would certainly result, under conditions of proper and efficient management, in substantial reductions in operating cost, particularly with reference to items of cost such as gasoline, lubrication, tires, wear and tear on equipment, repairs and depreciation, all of which items are largely controlled by the loading. It is my judgment that a 42¼ per cent reduction in the net load would result in substantial reductions in the cost per trip which reduction would be proportionately spread over the per bale cost.

From my investigation of the facts with regard to the equipment alleged to be used by complainants in transporting cotton, I find that it is recorded with the State and from the manufacturers' specifications, that this equip-
[fol. 570] ment is being grossly overloaded which condition ordinarily contributes to abnormally high operating cost, therefore, the elimination of the overload would have a tendency to proportionately reduce operating costs.

The loading of 20 to 25 bales, which complainants say they are doing, results in total weights largely in excess of the specified capacity of the equipment. With a load of 20 bales of cotton the overload is 118 per cent and with 25 bales the overload is 151.5 per cent. The detailed data are shown below.

International 1½ Truck, 136 Wheelbase

Weight of Chassis	2,935 lbs.
" " Cab	400 lbs.
" without body	3,335 lbs.
" of driver	150 lbs.
Body allowance	1,200 lbs.
Net Rated Capacity	4,685 lbs.
Gross " "	3,000 lbs.
	7,685 lbs.

	20 bale load	25 bale load
Weight of Chassis, cab & driver	3,485 lbs.	3,485 lbs.
" " Trailer 11900-900 (Ex. A.)	2,900 "	2,900 "
" " Cotton @ 518 lbs. per bale	10,360 "	12,950 "
Total Gross Weight	16,745 "	19,335 "
Gross rated capacity (above)	7,685 "	7,685 "
Overload	9,060 "	11,650 "
% overload	118%	151.5%

Such overloading of their equipment by the complainants is prima facie evidence of improper and inefficient management and justified the conclusion that their costs under such conditions are unduly and unreasonably high. [fol. 571] Moreover, it follows from the premises that the result of reducing the loads from 22.5 bales to 13 bales would be to reduce the costs in a proportionately greater degree than the reduction in weight of the load.

For these reasons, I am of the opinion that the cost per bale for the trip under consideration with 13 bales per load instead of 20 to 25 bales per load would probably not be greater than $1.25 to $1.40 per bale; and it is entirely possible that the present cost of $1.00 per bale would not be exceeded.

The operation of trucks and trailers upon the public roads and highways with such overloads as are put on them by the complainants is a dangerous and hazardous practice. The engine, clutch, transmission, differential, axles and brakes are all overstrained by excessive loading and the danger and risk of serious accidents to the traveling public are greatly increased over those dangers and risks normally present.

My name is R. G. Waggener. I am a member of the American Society of Engineers and have had about twenty-five years engineering experience as set forth in other affidavits filed in this proceeding.

Practically all of the concrete highways in this State (a concrete highway being what is known as a rigid type of

[fol. 572] highway) are constructed in slabs. Such slabs vary in length on the average from 50 to 80 feet. The distribution of the weight of a truck and its load passing over such slab extends the entire breadth and length of a normal slab. For the purpose of this affidavit I am assuming a normal slab of 50 feet in length.

If a truck carrying a net load of 7000 pounds passes over such a slab the weight of the 7000 pounds would be distributed over the entire slab. If a truck and trailer less than 50 feet in length carrying jointly a load of 7000 pounds passes over such a slab, the weight of the load that would be distributed over the entire slab would be 7000 pounds. On the other hand, if a truck and trailer less than 50 feet in length passes over the slab carrying a net load of 7,000 pounds on the truck and 7000 pounds on the trailer, the weight of the net load which would be distributed over the entire slab would be 14,000 pounds. This is true because in the case of a rigid type pavement the quality of its rigidity has the effect of distributing the total load imposed over the entire area of the slab so that all portions of the slab bear the effect of the net weight of the load itself.

For the reasons above given, there is, of course, a far greater weight superimposed upon such a slab by a truck carrying 7000 pounds followed by a trailer carrying 7000 [fol. 573] pounds than would be superimposed upon the slab if there was only one truck carrying 7000 pounds without a trailer or if the truck and trailer together carried only 7000 pounds.

In addition thereto, it is, of course, a fact that a trailer follows immediately behind the truck while two separate trucks, as a rule, follow each other at a considerable distance. It would be very unusual for two different trucks each carrying 7000 pounds to have the entire weight of their net load superimposed upon a single slab as above described, while in a 45 foot length truck and trailer the net load of the truck and trailer together would inevitably at some time be superimposed upon each single slab of such dimensions as above indicated.

In addition to the above, it is true more damage and injury would be done to a rigid type road and more stress would be placed upon each slab by running a truck carrying 7000 pounds over it followed by a trailer with an additional load, than would be caused by running a truck

carrying 7000 pounds over it followed at a greater distance by a second truck carrying the same additional load as the trailer.

By a slab I mean one continuous unit of concrete pavement monolithic in character without joints or cracks.

My name is R. G. WAGGENER. My residence is in Dallas, Texas. I am a civil engineer by profession and have had [fol. 574] about twenty-five years of engineering experience, a large part of which has been in transportation matters. I was employed by the Texas & Pacific Railroad for 13 years and prior to that time I was employed by the Union Pacific Railroad Company and the Western Pacific Railroad Company. I also have had six years experience in general engineering with six to eight years in electrical and mechanical engineering work as well as financial, accounting and cost matters. I am at the present time engaged in the practice of my profession independently.

I have made a study of the distances which would have to be traversed over a highway in the State of Texas in order to transport by motor truck goods, wares and merchandise from a common carrier unloading station to any given destination without passing a common carrier unloading station and I have made a study of the distances which would necessarily have to be traversed by motor truck over the highways of the State of Texas to transport a commodity from a given origin to the nearest common carrier receiving station. In making this study I have taken the records of the Railroad Commission of Texas showing the routes of all Class A common carrier motor trucks in the State of Texas and have determined their receiving and unloading stations and I have taken note of the location of the receiving and unloading stations of the common carriers by railroad. I have located the receiving and unload-[fol. 575] ing stations of both characters of common carriers with reference to all other portions of the State of Texas. In arriving at the areas and their location with reference to common carrier receiving and unloading stations I have taken each and every area within the State of Texas which is surrounded by either common carrier truck or railroad routes, or both, and figured the distances via highway to the

nearest common carrier receiving and unloading station. In my opinion the study thus made is comprehensive and will fairly represent the result throughout the state and from it I find it possible to arrive at averages which, in my opinion, are reliable for the purpose of determining the average lengths of haul to be accomplished by traffic in going from points of origin to common carrier loading points and from common carrier loading points to points of destination. My investigation shows that the average haul in West Texas is 8.63 miles and in Central East and South Texas 3.22 miles. The average for the entire state being 4.35 miles. In this connection I wish to point out that although these figures represent the physical facts as determined by routes, the facts that the density of the population and of commodity movement is lightest in West Texas where the average hauls are longest and greatest in East, Central and South Texas where the average hauls are shortest results in making my figures of actual measurements relatively high. I wish also to point out that, in general, the center [fol. 576] of gravity of population and commodity movement is closer to the receiving stations of common carriers than the average distances thereto and that the result of this condition would result in making the average haul less than the actual figures of lineal distances. The combined result of these two considerations makes my average haul 4.35 miles for the entire state conservative, the probabilities being that actual average haul would be materially less than my figures show.

Class A common carrier truck operators in the State of Texas operate over routes which, in some instances, are comparable with those operated by the Class I railways. In particular, I would refer to the ABC motor freight lines operating three trucks under certificates 2217 and 2038 from Dallas and Fort Worth to Houston, via Alvarado, Bremond and Hempstead, and Waco to Hearne, Houston to San Antonio, via Schulenberg, two of which routes are over two hundred miles in length; Atkins Truck Line operating four trucks under Certificate 2109 from Houston to Port Arthur and Beaumont in the neighborhood of 100 miles; Pete De Shong operating four trucks under certificate 2156 from Amarillo to Dallas, via Fort Worth and Wichita Falls, a distance of about 350 miles; Sproles Motor Freight Lines operating 38 trucks under certificate 2010, from Henrietta to

Nacona, from Decatur to Archer City, from Dallas to Memphis, via Ft. Worth, Wichita Falls and Childress, [fol. 577] Wichita Falls to Burkburnett, Dallas to Alvarado, via Midlothian, and Dallas to Houston. These are only a few of many common carrier truck lines operating over routes of considerable length within the State.

The uses made of the highways by these carriers would be representative of that character of service using the highways as compared with the limited use of the highway possible under the provision which permits the transportation of commodities to and from a common carrier unloading and receiving station.

In this connection I wish to point out that practically all of the principal state roads and highways are operated over by common carrier truck lines. Therefore, the tributary hauls for which I have given average distances would be, in almost all cases, over secondary roads where there would be negligible interference with public travel.

R. C. Waggener was thereupon called as a witness on behalf of the respondents and, having been first duly sworn, was tendered for cross-examination and testified as follows:

Cross-examination.

By Mr. Francis:

In one of the affidavits that I have made I stated that I have made a study of the State of Texas and determined [fol. 578] the relative distance of what they term or call here certain short-line traffic that is allowed by this Bill where you can carry 14,000 pounds to a common carrier receiving point, and I gave certain figures in which I estimate the length of that traffic.

It is not a fact that the way I made my estimate was by taking a given designated point and just estimating from that point how far away each common carrier station is, and then dividing it by two, and then assuming that the traffic is half of that figure. I did it by taking a railroad map of the State of Texas and I got a list of all the Class A common carriers operating over the highways of Texas, and I put the common carrier truck routes in red pencil

on the map on the highways over the routes specified, and after I had done that I, by scale, measured the average distance to the common carriers in each and every area of the State surrounded by common carriers, either trucks or railroads.

It is not a fact that in giving the summary or results that I have incorporated in this affidavit, I assume every one of those common carrier stations from which I figure, were equipped to handle every load that was offered or tendered them for shipment. I made no assumption of the sort. The distances that I gave are the average distances to the nearest common carrier trucks or railroad receiv-
[fol. 579] ing stations. I mean that every little town, railroad town where the train stops, and every place where the bus stops, I mean to say that at those places they are equipped to handle any load that is tendered to them.

I am with no railroad; I was not employed by the railroad to do this; Messrs. Calloway & Reed employed me. I dont know whether they are connected with the Attorney General's Department or not.

Any load which is offered to the railroad in the general course of business at any station in Texas, they are prepared to handle. I don't know that I ever stopped off at Decatur. My testimony is not that I have been to every railroad station in Texas. I did not assume that every railroad station was equipped to handle any load of any commodity which might be tendered to them, in making that computation; I made the assumption from my extensive knowledge of the railroad situation in Texas, from intimate contact of many years with it, that the common carriers are prepared to handle the traffic which is customarily tendered to them.

To the best of my knowledge there is no railroad in Texas that owns any facilities themselves for the loading of gasoline, that is, common carriers. There are many loading racks for gasoline. The railroad is not required to supply the loading racks for the refineries; it is not the
[fol. 580] custom; I know of no place where the common carrier railroad owns and operates a loading rack, but there may be some.

I can not name you a single common carrier station that has got any facilities for unloading 2,000 gallons of gasoline and putting it in a railroad car to transport on into

Dallas. When that traffic is offered to the railroads they will provide facilities.

Examination by the Court:

I am at the present time consulting engineer for myself; I have been employed by railroads but I am not at the present time. Messrs. Calloway & Reed employed me for a client; I know who the client is. I presume I was employed in the interest of the Texas-Oklahoma Compress & Warehouse Association, that is my information, that I am doing that for the Texas-Oklahoma Compress & Warehouse Association.

L. G. PHARES testified by affidavit as follows:

My name is L. G. Phares; I am a resident of the City of Austin, County of Travis and State of Texas. For the last six (6) years I have been employed by the Texas Highway Department, most of this time as Chief Law Enforcement Officer. In my capacity as Chief Law Enforcement Officer, I have necessarily made a study of the operation of all kinds of motor trucks over the highways of this State during the time that I served in the capacity above mentioned. During the past several years, I have particularly [fol. 581] been forced to make a study of conditions obtaining with reference to the transportation of cotton by motor trucks over the highways of this State. Both from personal observation, from personal study of this matter, and from the records and experiences of the Texas State Highway Department, I know the following to be true:

The transporting of cotton by motor truck has increased by leaps and bounds during the past three (3) years and especially during the last two cotton seasons. The operation of cotton trucks has brought about a most unusual traffic menace upon the highways of this State. It is unquestionably and admittedly true that the cotton trucks are a far greater menace to other travel upon the highways of this State than any other kinds of trucks, and that the operation of trucks for the transportation of cotton has brought about traffic dangers upon our highways and traffic problems that have not been caused by any other form of

motor transportation. The number of accidents resulting from the operation of cotton trucks, the damage to property upon the highways from the operation of cotton trucks, and the injuries to persons and the killing of people upon the highways resulting from the operation of cotton trucks are far out of proportion to accidents, injuries, deaths, etc., caused by other forms of motor transportation. It is unquestionably true that the cotton truck, as it [fol. 582] has been operated in this State for the past several years, presents a safety problem and conservation problem that is not found in any other kind of motor truck transportation.

It is my opinion that, while many factors may contribute to the condition above mentioned, the main factors causing the cotton truck to be such a dangerous instrumentality upon the highways are as follows:

(a) The unwieldy nature of cotton loads, as those loads have heretofore been carried upon the highways of this State;

(b) The character of equipment used for this form of motor transportation;

(c) The character of drivers, by which the cotton trucks have heretofore been operated.

I am acquainted with the provisions of House Bill 628, and it is my opinion, that the enforcement of this law will, to a great extent, lessen the dangers of the operation of cotton trucks, as they have heretofore been operated upon the highways of this State.

Below I will refer briefly to each of the factors mentioned and explain briefly what effect the provisions of House Bill 628, will have upon that particular factor:

(a) The Unwieldy Nature of Cotton Loads as Those Loads [fol. 583] Have Heretofore Been Carried Upon the Highways of This State

The cotton truck, as it has operated in Texas, has carried almost entirely standard bales of uncompressed cotton. A standard bale of cotton is so voluminous compared to its weight and the density of its contents that it makes an unwieldy object to handle. When more than Ten (10) bales of

uncompressed cotton are placed upon a vehicle or combination of vehicles, the load itself become unwieldy, and, because of the disproportionate nature of the volume of the load to the weight of the load, the center of gravity of the load is high and the entire load becomes top-heavy. These loads of cotton are hard for the driver of the truck to handle, and they are especially likely to topple over. This last mentioned factor becomes of extreme importance when you consider that many of the highways of Texas are extremely narrow in so far as their paved portions are concerned, and many of our highways are much higher in the middle than they are on the sides. As a result, operators of cotton trucks in the past have been afraid to drive their trucks anywhere, except in the center of the road, and it is the experience of our Highway Department that operators of the cotton the trucks do not move over in a reasonable way for the purpose of permitting the drivers of other vehicles to pass. The truth of the matter is that the cotton trucks, as they have been operated upon the highways of this [fol. 584] State, could not be operated by the drivers safely in so far as the travelling public was concerned, unless by that very fact, the drivers made the handling of their own trucks unsafe. In addition to the above, the same factors, as above mentioned, have made it impossible for the drivers to give a fair share of the road to other vehicles on the roads on the curves, and the operation of the cotton trucks on the curves of our highways have constituted a very serious traffic menace. Still further, one of these unwieldy loads of cotton is very difficult to handle upon a highway after a rain, and many accidents have been caused because of this.

The enforcement of the provisions of House Bill 628 would, with regard to any given load of cotton exceeding Ten (1-) bales, shorten the length of the load, lessen the width of the load, and most important of all, reduce the height of the load, and reduce the center of gravity upon the load. If the provisions of House Bill 628 are enforced, then the drivers of cotton trucks would be enabled to give a reasonable amount of the road to vehicles that they were meeting or that were passing them, and they would especially be able to handle their trucks on curves in such a way as not to endanger other vehicular traffic to the extent that it has been endangered by the operation of motor trucks.

In addition, the enclosing of the load, as provided for in House Bill 628, would prevent the cotton from slipping off [fol. 585] the load, from blocking the highways and from falling upon other vehicles and cuasing the wrecking of other vehicles, as has been done in the past. In short, it is my opinion that the average cotton truck, as it has been operated upon the highways of this State, is an unwieldy, hard-to-handle vehicle, which is dangerous to other traffic or vehicles on the highway. The cotton truck as it would be operated under the provisions of House Bill 628 would be a more wieldy truck, easier to handle, and above all, could be handled in such a way as to lessen the danger to other vehicular traffic upon the highways and to give a fair share of the highway space to other vehicular traffic.

(b) The Character of Equipment Used for This Form of Motor Transportation

It has been the experience of our Highway Department that of all our motor trucks operated on the highways the cotton trucks, as a class, present the worst equipment. It is my opinion that the provisions of House Bill 628, with regard to enclosing the load from the bottom, sides and ends, would from their very nature tend to improve the class of equipment that would be used in the transportation of cotton.

(c) The Character of Drivers by Which the Cotton Trucks Have Heretofore Been Operated

The personnel and driving ability of operators of cotton motor trucks are far below the personnel and driving ability of operators of other motor vehicles on our highways. [fol. 586] Whether or not the enforcement of House Bill 628 will bring about the employment of a better class of drivers, it certainly cannot be doubted that the enforcement of that Bill would place into the hands of the drivers trucks which were easier to operate, with a reasonable degree of safety to other vehicles on the highway. By accomplishing the things pointed out in Paragraph (a) above, the enforcement of the provisions of House Bill 628, whether or not the character of the drivers was changed, would place into the hands of those drivers trucks which they could operate with

a far greater degree of safety to other users of the highway.

I have briefly outlined the main reasons why the operation of the cotton truck presents an unusual traffic problem and why, in my opinion, the enforcement of the provisions of House Bill 628 would be a great help in curing the evils above stated. I might further point out that the volume of cotton moving by trucks and the number of trucks used in moving the cotton crop present a further problem with regard to congestion upon the highways and the use of the highways inconsistent with the reasonable use of the highways by other travelers. This has been true for the past Two (2) years, and it is my opinion that unless effective regulation is carried out it will become more true during the next two or three years, during which time it is probable that the amount of cotton which is trucked will be [fol. 587] between two and three times as much as has been trucked in the past. All of this cotton will move within a relatively short space of time, and, if we are to maintain a reasonable regulation of traffic upon the highways, looking towards preserving the lives of travelers and protecting the property of travelers, then, in my opinion, it is absolutely necessary effectively to regulate the operation of the cotton trucks. Unless some such regulation is effectively carried out, the operation of cotton trucks over the highways of this State during the cotton season will absolutely destroy any co-ordinated use of the highways in a reasonably safe manner by the general traveling public. How serious the problem may become is illustrated by the fact that during the fall and early winter months approximately Eighty (80) per cent of all the trucks operated in the Southern and Southeastern portion of our State are cotton trucks.

My name is L. G. PHARES and I am Chief of the Highway Patrol of the State of Texas, my duties being more fully reflected in other affidavits filed in this case.

The following facts are true with regard to the operation of motor busses over the highways of this State:

1. The number of motor busses in operation over the highways in this State is very small as compared to the [fol. 588] number of trucks in operation, the motor busses

being about 900 in number and the trucks being over 200,000 in number. For this reason the trucks, of course, present some serious problems with regard to traffic congestion and traffic dangers upon the highways than do the motor busses.

2. Practically all motor busses operate as common carriers and are under the direct supervision of the Railroad Commission of Texas, whereas great numbers of private trucks are wholly without regulation by the Railroad Commission of Texas. This results in several things:

(a) The class of drivers operating motor busses both with regard to skill and responsibility, is far above the drivers, as a class, operating motor trucks.

(b) The equipment of motor busses with special reference to brakes, etc., is far superior to the average equipment of motor trucks and, from a mechanical standpoint, it is possible to operate motor busses which are larger than trucks and which are driven faster than trucks with greater safety than trucks of the same size and driven at the same rate of speed could be operated.

(3) Because of the above, especially the number of motor busses being operated over the highways, problems of traffic congestion with regard to operation by motor busses are by no means as serious as the congestion resulting from operation of trucks and motor busses of greater size, width, [fol. 589] length, etc., were permitted to operate over the highways.

4. From the viewpoint of the necessity of the people as a whole and from the viewpoint of serving the interests of the general public, it is necessary to permit larger motor busses operated at a greater rate of speed than is necessary or reasonable to be permitted in the case of trucks carrying freight. Conditions obtaining in motor transportation with reference to the interests of the public, comfort of the public, etc., warranting greater size for motor busses do not obtain with reference to truck transportation.

Accidents caused on the highways by motor busses are so few in comparison to the numerous accidents caused by trucks that a comparison of the relative traffic dangers resulting from the operation of the two classes of vehicles can not even be approximated.

My name is L. G. PHARES. I have been duly appointed by the State Highway Commission as Chief of the State Highway Patrol. I have worked in this capacity since the existence of the Highway Patrol which was January 8, 1929. Prior to this time I worked for the Highway Department in different capacities since 1925.

During all of my experience I have familiarized myself with the highway system of this State and generally the [fol. 590] traffic conditions thereon. My study of highway matters and traffic conditions dealt particularly with the facts as to the safety and convenience of the highways. It is my opinion that after observing and studying these conditions that vehicles measuring more than ninety inches in width or more than 12 feet in height or any combination of vehicles more than 45 feet in length should not be permitted to operate upon the highways of this State. The reason I suggest the maximum width of 90 inches is because of the fact that the maximum for our traffic lanes is 10 feet and most of them have a width of only 8 or 9 feet, thus vehicles having a width of 90 inches or 7½ feet will occupy all but 2½' of a 10 foot lane or all but 1½ feet of a 9 foot lane. If our motor vehicles are to have a weight of 96 inches or nine feet we will have to increase the width of our traffic lanes to 11 feet and if matters of public safety and safety to persons on the highways and other traffic conditions are to be taken into consideration, the great cost to the taxpayer will not be justified by any advantages which will be gained.

From my personal observations and from my official investigation, it has been demonstrated that vehicles or combinations of vehicles longer than 45 feet make it inconvenient and dangerous for other traffic moving in the same direction and creates the same condition with traffic running in the opposite direction. The safety feature involved [fol. 591] in the maximum height of 12 feet is control-ed to a great extent by the great number of low underpasses and bridge portals of which there are approximately 300 in the State less than 12 feet 6 inches on designated state highways alone, and by the additional fact of the danger of vehicles of greater height toppling over on the highways because of the high center of gravity. The drivers of vehicles with a high center of gravity naturally, of necessity, drive in the center of the road to prevent overturning with the result that passing traffic is impossible or is greatly

inconvenienced and the lives of the public are endangered.

My experience and research has shown that heavily loaded vehicles are not only most damaging to the highways but also are a great contributing factor to accidents and loss of life.

A truck having a gross weight of 6000 pounds which is moving on the highway at a speed in excess of 20 or 25 miles is a great menace to the safety of the travelling public and results in damage to the highway which can be avoided by a lower speed. Particularly is this true where a truck of small capacity is often loaded far beyond its capacity. For example, a ton or ton and a half truck to which is attached a semi-trailer will be loaded with upwards of 6000 pounds by reason of which facts and by reason of the further fact that the tire equipment and brake equipment of said [fol. 592] vehicles is not designed to handle the load properly, the highways are severly and seriously damaged and the lives and limbs of persons on the highway are seriously endangered.

During the past two or three years the average truck has made it dangerous to use the highways of this state by reason of excessive speed, excessive loads and disregard for the rights of others because of a lack of proper limiting of weight, height, width, length and speed. With proper regulations the same commodities may be hauled upon the highways with safety to the public and without damage to the highways.

I am familiar with the pr-visions of House Bill 336 which was enacted by the 42nd Legislature at its regular session. It is my opinion that the provisions of said bill are reasonable and that if enforced that it will correct the evils which are pointed out. If properly enforced the highways can be made safe for the average citizen in the ordinary way and highway damage by heavily loaded vehicles will be greatly reduced.

The official records of this department have been furnished me by the Maintenance Engineer and the Auditor. These records deal with the gross truck traffic in Texas during the past few years, and the use and loading of motor vehicles. It is shown that truck density in Texas as measured by the percentage that trucks are of all vehicles [fol. 593] compared with that of the United States has increased enormously and especially so during the recent

years of 1924 to 1930 inclusive. From 1924 to 1930 inclusive the truck density of the United States has remained practically constant while that of Texas has mounted rapidly from 64% in 1924 to 100% of that of the United States in 1928 and being 15% above that shown for the United States in 1930. This great increase in truck traffic on Texas highways indicates the imperative need for adequate truck regulation toward the end of preventing the destruction of the State and County highways as well as insuring the safety of the travelling public in their use of it.

The gross weight of trucks in excess of 3½ tons increased rapidly as is shown in the following:

Average 4 ton truck has gross weight of 17,000 pounds.

Average 5 ton truck has gross weight of 21,000 pounds.

It is my opinion that the provisions of House Bill 336 and especially those provisions limiting the load and rate of speed of motor trucks if properly enforced will reduce the maintenance cost of our state highways by a large amount with the consequent saving of a large amount of actual expenditures for that purpose. In addition to this great saving the public convenience will be greatly served and the constant menace of personal injury and death on the highways of this State will be very materially reduced.

[fol. 594] With special reference to Section 3 (f) of House Bill 336 the following is true:

Practically all of the trucks operating over the highways of Texas that carry boxes, containers or bindings weighing more than 500 pounds and containing more than 30 cubic feet are open trucks.

From the observations I have made and my experience I know it to be true that when more than 14 units of the kind just above mentioned are carried as a load on a truck or combination of vehicles that the resulting load is an unwieldy load, a topheavy load, a load with a likelihood of spilling upon the highways and causing traffic accidents and traffic congestion and specially a load of such a nature as makes it difficult for the driver to get over to the side of the road, especially on curves, and permit other vehicular traffic to pass. From its very nature, a load carried on a truck or combination of vehicles composed of more than fourteen units of the kind above described is a dangerous load on the highways and it is my opinion that the limiting

of loads of this kind to 14 units of boxes, containers or bindings weighing more than 500 pounds and containing more than 30 cubic feet will more materially aid in protecting the highways from traffic congestion and in making the highways more safe for ordinary traffic.

[fol. 595] For the past six years I have been employed by the Texas State Highway Department and most of this time as Chief Law Enforcement Officer. The principal duties of the Law Enforcement Division are to enforce the Highway Laws, consequently I have come in contact with the truck operators in all parts of the State, and as the cotton truck industry has grown by leaps and bounds for the past three years, I have paid special attention to this class of equipment and operators. As a general rule, the class of operators employed on cotton trucks pay very little attention to the highway laws and instructions issued them.

I am familiar with the terms and provisions of the law under attack in these proceedings known as H. B. 628 based upon my experience in the handling of highway traffic in the State of Texas. It is my judgment that the requirements of this bill will materially relieve the intolerable condition created in this state by the operation of cotton motor trucks transporting cotton on the highways in Texas. The reduction of the load of uncompressed cotton to not more than ten bales per vehicle is a necessary requirement due to the bulky nature of the cotton and due to the necessity of reducing the topheaviness of the load of uncompressed cotton. The requirement to compress the cotton will permit the same quantity of cotton to occupy approximately half the space of uncompressed cotton and will thus reduce [fol. 596] the menace to life and property created by the motor vehicles transporting cotton in this state. The requirement to enclose the load where more than ten bales of compressed cotton is transported by motor vehicle will promote the public safety in that a well-defined width of the truck will be maintained and in that, further, a uniform outline of the vehicles will be visible to passing motor vehicles. The enclosing of the load as required by the terms of H. B. 628 will also relieve the danger created by the dumping or falling of bales off of the truck into the highway in front of moving vehicles on the highway.

L. G. PHARES was thereupon called as a witness on behalf of the respondents and, having been first duly sworn, was tendered for cross-examination and testified as follows:

Cross-examination.

By Mr. Francis:

I do not think I made an affidavit in this case, it was in previous cases; I think I made two affidavits. I made them at the instance of myself and the Assistant Attorney General, one of them was made at the request of Senator Rawlings.

In my affidavit where the expression is used that House Bill 336 is a reasonable and practical measure, I don't think I said "protection of the highways," as far as preservation [fol. 597] of the road is concerned. Most of my affidavits dealt strictly with the safety measure out on the road and the traffic problem. I would think that the Bill had some relation to protecting the highways.

I don't know if I told Mr. Beck exactly that I thought it was the most foolish Bill I ever saw. Prior to the time 336 was written I helped prepare a Bill for Senator Rawlings known as House Bill 118, and the weight in that Bill was on the gross weight of the vehicle and not the carrying capacity, and I think the way I expressed it to Mr. Beck was that, as far as an enforcement measure was concerned, I would rather see a gross weight than a carrying weight in the Bill, because it would be much harder for our Department to enforce it.

I have seen this Order 330 of the Highway Department of Texas, signed by D. K. Martin and Cone Johnson, issued under date of October 20, 1931. I couldn't say that this is an exact copy of the Order, because I have only seen a mimeographed copy here. (After reading the order.) That is what I saw.

At the present time I have nothing to do with maintaining the highway or the construction of it; I have in past years worked in the Maintenance Department. At present I am purely an enforcement officer.

[fol. 598] Affidavit of H. A. LOCKETT states that he is connected with the John Deere Plow Co., of Dallas, and knows

the use to which implements of husbandry are put and the manner in which they are used; that implements of husbandry are not used on the public highways for transporting property or persons; that the only time they are caused to be moved on the highways was at times of temporary emergency when they have to be transported from one field to another.

[fol. 599] EXHIBIT "B"

Registrations from 1917 to 1923, inclusive, were not separated according to class of vehicle. The totals for each year are as follows:

Year	Registrations
1917	194,720
1918	250,201
1919	331,721
1920	430,377
1921	470,575
1922	531,608
1923	695,822

From 1924 to date the registrations are separated as follows:

Year	Total	Passenger cars	Per cent	Trucks	Per cent
1924	831,685	766,149	92.12	65,536	7.88
1925	971,201	882,994	90.92	88,207	9.08
1926	1,046,585	941,791	89.99	104,794	10.01
1927	1,110,240	995,366	89.65	114,874	10.35
1928	1,212,597	1,058,695	87.31	153,902	12.69
1929	1,350,857	1,167,370	86.42	183,487	13.58
1930	1,364,942	1,158,415	84.87	206,527	15.13
1931	1,226,986	1,039,551	84.72	187,435	15.28

[fol. 600]

Texas State Highway Department

Comparison of Traffic Census Figures

County	Hy.#	Point	1929 Total vehicles	1929 Trucks	1930 Total vehicles	1930 Trucks	1931 Total vehicles	1931 Trucks	% of inc. in 1930 over 1929 on trucks	% of inc. in 1931 over 1930 on trucks	% of inc. in 1931 over 1929 on trucks
Jefferson	8	3 Mi. S. E. City L. Beaumont	4463	441	4533	495	5551	1271	12 %	157 %	188 %
Dallas	15	Dallas-Kaufman C. L.	1855	207	2153	231	4057	823	11½%	256 %	297½%
Dallas	1	Dallas-Tarrant C. L.	6570	569	6567	623	7696	801	9½%	28½%	41 %
Harris	19	3 Mi. N. C. L. of Houston	2344	430	3214	501	4095	691	16½%	38 %	60½%
Collin	6	Dallas-Collin CL	2178	220	2509	293	2687	620	33 %	112 %	182 %
Harris	6	N. at Jct. Hy. 6 & La Porte Rd.	2671	487	5812	362	8471	573	−26 %	58 %	17½%
Nueces	16	Nueces-San Pat. CL	2497	301	4199	477	3997	524	58½%	10 %	74 %
Bexar	16	Salado Crk. Br	1961	280	2602	372	2727	499	33 %	34 %	78 %
Harris	6	S. at Jct. Hy. 6 & La Porte Rd.	2671	487	5812	362	7043	495	−26 %	36½%	1½%
Potter	33	1 Mi. E. C. L. Amar	1266	257	1704	261	2709	466	1½%	78 %	81 %
Wilson	16	2 Mi. SE of Calaveras	1961	280	2149	340	1981	425	21½%	25 %	52 %
Foard	28	4 Mi. E. of Crowell	465	67	611	66	981	421	− 1½%	538 %	528 %
Parker	1	4 Mi. W. of Weatherford	2119	265	2334	290	2496	411	9½%	41½%	55 %
Angelina	35	3 Mi. S. C. L. Lufkin	1361	156	1436	146	1464	317	− 6½%	117 %	103 %
Bee	16	4 Mi. S. Beeville	1559	190	2618	292	2205	358	53½%	22½%	88½%
Bexar	2	Bexar-Guad. Co. L.	2012	302	3055	366	3251	368	21 %	½%	22 %
Carson	33	Carson-Potter C. L.	1266	257	1700	261	1687	304	1½%	16½%	18 %
Comal	2	5 Mi. SW New Braunfels	2695	231	2772	315	2999	331	36½%	5 %	43 %
McLennan	2	5 Mi. S. of West	2997	186	2747	207	2884	358	11 %	73 %	92½%
Nacog	26	N. at Jct. Hy. 26 & 110	777	242	716	80	1110	296	−67 %	270 %	22 %
Nacog	26	S. at Jct. Hy. 26 & 110	777	242	716	80	1325	355	−67 %	343½%	46½%
P. Pinto	1	P. Pinto-Parker C. L.	2119	265	2334	290	2556	305	9½%	5 %	15 %
Randall	33	7 Mi. N. of Canyon	1570	320	2749	345	2569	392	8 %	13½%	22½%
T. Green	9	N. at Jct. 9 & 30	1262	119	1210	134	2145	337	12½%	151½%	183 %
V. Zandt	64	NW at Jct. 19 & 64 Near Canton.	1666	206	1560	156	2094	350	−24 %	124½%	70 %

J. B. Early, Maintenance Engineer.

I hereby certify that the above is a true and correct copy of official records on file in this office.

Zay Johnson Ass't. Maintenance Engineer.

Subscribed and sworn to before me this 29th day of August, 1931. —— ——, Notary Public, Travis County.

[fol. 601] J. B. EARLY testified for respondents by Ex Parte affidavit, without opportunity being afforded the complainant and interveners for cross-examination, as follows:

That he resides in the city of Austin, Texas, and is employed in the State Highway Department for the State of Texas as general maintenance engineer, that his duties as such involve looking after the maintenance and supervision of maintenance of the some 19,000 miles of State designated highways within the State of Texas, and that his duties as such, bring him into close contact and touch with the highways of the State and the general conditions of traffic thereon.

That he keeps certain files and records pertaining to the highways, their condition and use and the traffic thereon, and that these files, consisting of reports, come as the usual thing from division and resident engineers stationed at different point throughout the State of Texas, and that said reports usually come addressed to the Honorable Gibb Gilchrist as State Highway Engineer, but that said reports in fact come direct and to the attention of your affiant who has a personal knowledge of their receipt in the office and the persons from whom they come.

These files and reports show that fatal accidents have occurred in which loaded cotton trucks have been a factor. These reports also show, and of my own personal knowl-
[fol. 602] edge I know, that a volume of traffic is greatly multiplied during the cotton hauling season. They also indicate that the actual damage to the highways is chiefly the result of the volume of this type of traffic over light pavements during wet periods when the base is soft. Any other vehicles of equal weight and design would create the same damage and the only reason that cotton is mentioned in this connection is because of the great volume of same that is moved over a short period of time. This volume of truck traffic being much greater than any other character of truck traffic draws attention to the effect of the impact of such loads on light pavements.

Within my personal knowledge, this character of traffic, that is the cotton truck, has created a hazard on the highways. This hazard is due to the fact that the loading of such vehicles with cotton sometimes requires, or is so

loaded, it approaches the maximum legal width of 96" allowable under existing law. When cars approach such loads from the rear they are often required to drive to the extreme edge of the shoulder of the road in order to get by such load without collision. When the shoulders are soft and slippery, this creates an unusual hazard to fast moving vehicles and when such vehicles strike this slippery base, they may be thrown into the ditch or into the other vehicles which they are attempting to pass.

It has also been noticeable that often in the hauling of [fol. 603] this material, trucks loaded with cotton will form into a train of several trucks, each closely following the other. This produces a particular hazard because of the bottle-neck condition of the balance of the pavement left for other vehicular traffic. For example, these trucks will often extend for 500' or more along the highway with such small intervals of space between them that if two approaching vehicles, travelling in opposite directions, attempt to pass such loads, one vehicle may necessarily be forced into the ditch in order to avoid a collision with the loaded cotton truck. I have seen this very condition upon the highway.

Loaded cotton trucks usually keep well to the center of the road. Most of the pavements in this State are widths of 18' or less. Thus, an 8' legal width load can become a great factor of danger on narrow pavements and at points where such highways may be restricted due to bridge structures. For this reason, even though such loading may comply with the legal restrictions of width and length, it may still be a factor of great danger and extremely hazardous to all other vehicular traffic.

As hereinbefore stated, this is not intended to apply strictly to cotton trucks, but to any load which approaches the legal width. It is merely emphasized in the case of cotton hauling because of the great volume of this material [fol. 604] passing over the highways during a comparatively short period of time. In other words, because there is a much greater number of cotton trucks than other classes of trucks operating on the highways.

(Letters were written from which information was secured as compiled in the following summary:)

Summary of Answers to Questionnaire on Operation of Cotton and Other Freight Trucks Over State Highways

1. Eleven divisions report that there is an appreciable movement of cotton through their divisions (reply to Question No. 1.)

2. These eleven divisions report that cotton hauling is confined chiefly to the following highways: #1, #2, #2-B, #3, #6, #8, #12, #12-A, #16, #19, #20, #26, #29, #31, #35, #36, #40, #42, #49, #64, #65, #68, #72, #74, and #95.

3. This cotton freighting is chiefly moving to Houston, Galveston, and Corpus Christi.

4. Only five divisions of the eleven reporting large hauling of cotton state that the wear on the pavement in the direction of the loaded trucks is greater than the wear on the opposite side.

5. Of the five divisions reporting noticeable damage from this cause, four estimate the necessary additional cost per mile per year on account of same. The average of their estimates is $112.00 per mile per year.

[fol. 605] 6. Of the eleven divisions reporting large amount of cotton hauling, nine report that this movement often congests and blocks passenger travel.

7. Several divisions attach letters citing actual cases of this blocking.

9. All eleven of the divisions reporting heavy cotton hauling state that the hauling of this product, as now being done with wide and high loading, offers a menace to travel. Danger chiefly is caused by high loads over-turning and wide loads that extend over the right half of the road. All of these divisions practically report that there is a tendency on the part of the drivers to avoid the edge of the road, thus forcing travel in opposite directions to the shoulder. Very few of the trucks are properly equipped with rear view mirrors so located as to enable them to see cars attempting to pass from the rear. Many accidents are caused on account of this fact. High loads often overturn at sharp curves.

10. Many divisions attach letters citing actual cases where trucks loaded with cotton have caused accidents and wrecks.

12. Eleven of the eighteen divisions report damage from other truck hauling, excepting cotton.

13. The character of this haul is chiefly logs, oil field supplies, motor express trains, gasoline trucks, etc.

14. The highways chiefly affected by trucking, other than cotton trucking, are listed as follows: #1, #1-A, #2, [fol. 606] #3-A, #6, #8, #9, #10, #15, #16, #19, #20, #21, #26, #28, #29, #40, #58, #61, #63, #64, #68, #87, #94, #102, and #159.

15. Of the eleven divisions reporting damage from truck, other than cotton, eight estimate that this damage will average $224 per mile per year in maintenance costs.

16. Nine of the eleven divisions reporting miscellaneous freighting report that this form of hauling often obstructs and blocks passenger travel.

17. Five of these nine reporting obstruction offer specific instances of such obstruction and blocking of passenger travel.

19. Nine of the eighteen divisions report that this truck hauling (other than cotton hauling) offers a menace to passenger traffic.

20. Three of the nine reporting such a menace cite actual instances of where such freighting has caused injury.

Under the stipulation as set forth hereinabove the respondents introduced in evidence affidavits as follows:

E. W. MAYR stated: My name is E. W. Mayr. I am a resident of the City of Houston, County of Harris, State of Texas. I have been continuously employed by the State Highway Department as a State Highway Patrolman from January 8th, 1930 to the present time. In this capacity, I have been continuously patrolling the highways in pur- [fol. 607] suance of my duties and during all this time have

had opportunity and have observed the operation of all types of vehicles over the highways of this State.

From August 15 to November 15, 1930, checked 1,735 cotton trucks on State highways in Harris County. All were violating from one to five different State highway laws.

On October 28, 1930, from 4:00 P. M. until 1:00 A. M., checked 117 cotton trucks on one state highway, State Highway #3, West in Harris County. This is an average of 13 cotton trucks an hour, or about one every five minutes.

On October 5, 1930, eight cotton trucks were blocking traffic on Highway #6 in Waller County. These trucks were top heavy and could not stay on the road after a heavy rain, and tied up traffic for four hours. Five out-of-state tourists caught in this jam, and all were giving Texas a bad name for permitting cotton trucks to jam up highways.

Hundreds of out-of-state tourists have complained about cotton trucks in Texas. This news travels from state to state, giving Texas a bad name for our highways, causing our tourist trade to slump.

Heavy loaded cotton trucks can not get off pavement to repair tires without turning over or becoming stuck on soft shoulders of highways. Cotton trucks habitually park on paving to repair any damage to their trucks.

[fol. 608] Cotton Trucks Warned and Arrested from August 15 to November 15, 1930

Defective lights	208	Driving in center of road	30
Defective reflectors	578	Red flag on poles	42
Defective brakes	97	Spilling load on highways	24
Parking on highway	23	Speeding	18
Overweight	268	Drunk drivers	3
Overwidth	66	Fictitious license	10
No mirrors	254	One license plate	64
No mufflers	16	Out of state trucks	28
No trailer license	6		

No other type of vehicle or combination of vehicles, transporting any other commodity, caused anything like the number of accidents, injuries, deaths, or damages, during a similar period as wa- caused by cotton trucks.

HOMER GARRISON stated: My name is Homer Garrison, Jr. I am a resident of the City of Houston, County of Harris, State of Texas. I have been continuously employed by the State Highway Department from January 1, 1929 to the present time. For a period during this time I was employed as licensed weight inspector and since the formation of the State Highway Patrol on January 8, 1930, I have been a Lieutenant on said Patrol. In this capacity I have been constantly supervising the patrol-ing of the highways in pursuance of my duties in enforcing the high- [fol. 609] way laws. During all of this time I have observed the character and method of operation of all types of vehicles including cotton trucks over the highways of this state.

Over ninety per cent of the cotton trucks that I have observed operating over the highways of this state are small one ton and a ton and a half trucks, many of them being Fords, Chevrolets and one and a half ton International trucks equipped with a semi-trailer. This type of vehicle has been customarily used, according to my observation, to handle an average of twenty bales of uncompressed cotton.

Such vehicles create a most serious hazard for the following reasons:

Such a load of uncompressed cotton is so high that the vehicle is top heavy. For this reason it is practically impossible for such a vehicle to get off to the side of the road on the average road. For this reason it is difficult for other vehicles to pass such cotton trucks and the passing of such cotton trucks by other vehicles is very dangerous. In addition, the high character of this load causes many cotton trucks to turn over. For example I was meeting a cotton truck on Highway 35 in Polk County some time during September, 1930, and when he attempted to move out of the center of the road to permit another car to pass [fol. 610] the whole truck and trailer turned over. In addition, the bulky character of this load of uncompressed cotton as loaded on such vehicles without any sides thereon makes it very difficult and almost impossible to tie said load on the vehicle, as a result of which fact many instances have occurred where one or more bales of cotton have fallen off of such trucks on the highway.

The small capacity truck which I have observed as the usual equipment of such combination of vehicles is ordinarily equipped with brakes designed for use in connection with a one or one and a half ton load. Consequently, when the semi-trailer loaded with twenty odd bales of cotton is attached thereto the brakes of said vehicles are entirely inadequate. This condition creates an additional hazard.

The transporting of uncompressed cotton in such large quantities as has been done during the past cotton season also creates a serious fire hazard. A number of instances of cotton and cotton trucks burning on the road have occurred and I personally observed one such instance.

The cotton truck has also been the cause of more accidents than other types of vehicles because the drivers customarily employed were not as capable drivers as the average driver of a truck. Most of them were paid very small wages and because the customary drivers have been required or have operated such trucks for an unreasonable length of time.

[fol. 611] During the peak of the cotton movement by motor truck last season through Lufkin on Highway 35 there came to my observation this movement of cotton by truck. Later there came under my observation the movement of oil field equipment and supplies by motor truck over this same highway. The movement of oil field equipment and supplies was approximately three times as large in number of trucks as was the movement of cotton trucks during the same period of time. There have been very few accidents and no deaths resulting from the operation of trucks in hauling oil field supplied and equipment. While in the case of transportation of cotton by motor truck over the same highway for the same period of time there were numerous accidents reported daily and there came under my observation a number of deaths that were caused by these cotton trucks upon and in the immediate vicinity of this highway of which I am now speaking. The complaints from the public of the operation of motor vehicles on the highway were not nearly so numerous in connection with the motor trucks transporting oil field supplies and equipment as was the case in connection with the transportation of cotton by motor truck. The blockades of the

highway by the motor trucks transporting oil field equipment were not nearly so numerous as the blockading of the highway by the motor trucks transporting cotton. The wrecking of motor trucks on the highway was not nearly so numerous in connection with the trucks transporting oil [fol. 612] field supplies and equipment as was the case in the transportation of cotton by motor truck.

I attribute the unusual number of accidents in the case of the cotton trucks primarily to the fact that the average cotton truck load of uncompressed cotton is so unwieldy and so topheavy and the center of gravity is so high that the trucks cannot be safely operated over the highways. In my opinion this particular evil would be remedied to a very great extent by enforcement of the provisions of H. B. 628.

Another fact which creates a more serious hazard in the case of the cotton truck than with any other type of vehicle transporting any other commodity is the fact that the bulk of the cotton moves in a comparatively short time causing very large numbers of cotton trucks to be on the roads during a period of two or three months.

I have observed that the conditions above described which obtain in connection with the transportation of cotton by motor truck did not exist to the same extent in connection with the transportation of any other commodities by motor truck.

I am familiar with the provisions of what is known as H. B. 628 passed by the last session of the Texas Legislature. The conditions which I have described in connection with the transportation of cotton will be materially [fol. 613] improved by the provisions of that bill in that said law first reduced the number of uncompressed bales of cotton which may be handled on any one vehicle or combination of vehicles to ten bales and, second, in that the law requires the bales to be compressed to a density of 22 pounds per cubic foot or greater thus reducing the bulk of the package and making it safer to load on the vehicles reducing the width and height of the load so that it may be with a greater degree of safety transported over the highway in a motor vehicle and, third, in that the law requires the enclosure of any load of more than ten bales of compressed cotton in a body completely enclosing the sides and ends of the vehicle.

A. H. DUGAN stated: My name is A. H. Dugan. I am a resident of the City of Dallas, County of Dallas, State of Texas.

For ten years I have been employed by the warehouse and compress company operating a compress and warehouse in Dallas, Texas. For ten years I have been connected with the transportation of cotton and my experience has covered the transportation of cotton both by railroad and motor truck. I have had ten years of experience in the loading and unloading of cotton in bales. I am familiar with the size of a bale of cotton in its uncompressed form and in its compress form. I am familiar with the difficulties encountered in the handling of a bale of cotton both compressed and uncompressed. I am familiar with the [fol. 614] difficulties encountered in the handling of a bale of cotton both compressed and uncompressed. I am familiar with the shape of a bale of cotton and know the difficulties encountered in endeavoring to load uncompressed cotton on an open vehicle.

Uncompressed cotton as it comes from the gin is baled by a gin presser. The gin presser packs the lint cotton into a box with an automatic mechanical device known as a "tromper." The speed of the gin in feeding the cotton into box and the automatic operation of this mechanical device produces an uneven bulky package.

The compression of cotton to a density of 22 pounds per cubic feet or greater eliminated the distortion of the shape of the bale and reduces its size more than 50 percent.

The method of gathering, producing, ginning, ba-ling, sampling, handling and compressing of cotton makes it an unusual commodity distinguishable from all other commodities transported either by motor truck or by railroad. The commodity of cotton is marketed on the basis of grade and staple. The package, therefore, is frequently exposed to the elements by the sampling process. It is impossible for the gin compresser to produce a bale of sufficient density to protect the package from the elements including danger by fire. Cotton, by reason of the method of production, ginning, handling and marketing, is a commodity present-[fol. 615] ing unusual and extraordinary difficulty in transportation not present in connection with any other com-

modity to my knowledge. Uncompressed cotton, because of its bulky package cannot be safely loaded on a vehicle unprotected on its sides and ends so that the load will not spill when detracted from an even road surface.

The compression of a bale of cotton to 22 pounds per cubic foot or greater density, eliminates the difficulty encountered in the handling of an uncompressed bale of cotton and the difficulty in the loading an uncompressed bale of cotton. However, the compression of cotton even to a density greater than 22 pounds per cubic foot does not reduce its size to where it may be loaded on an open vehicle, such as a motor truck, safely, without inclosing the sides and ends of the body.

The compression of a bale of cotton increasing its density per cubic foot necessarily reduces the center of gravity in the loading of the same number of bales in the same space.

I personally loaded the two vehicles as depicted in the attached picture. Both vehicles are loaded with 20 bales of cotton; one with 20 bales of uncompressed cotton and the other with 20 bales of compressed cotton. The vehicle loaded with 20 bales of uncompressed cotton presents the following dangers upon the highways which are not present [fol. 616] in connection with the loaded vehicle with the compressed cotton: first, the vehicle loaded with the uncompressed cotton is more than twice the length of the vehicle loaded with the compressed cotton. The great length of the vehicle loaded with the uncompressed cotton produces a whipping of the rear end of the vehicle, thus endangering other vehicles on the highways and endangering the load itself to a spill upon the highways and consequently endangering passing vehicles; second, the vehicle loaded with uncompressed cotton cannot make the curves in the existing highways in Texas without blocking the entire highway and endangering other vehicles upon the highways. The vehicle loaded with the compressed cotton can make the existing curves in the existing highways without blocking the entire highway and without endangering other vehicles on the highways; third, the vehicle depicted in the attached picture and loaded with uncompressed cotton exposes that article to fire hazard because of the looseness of the bales or package and because of the ability of the lint to attract sparks, and further, the uncompressed condition

of the bale endangers the entire load because of the rapid spread of any one spark that may take place in connection with any one bale. On the other hand the vehicle depicted in the picture loaded with compressed cotton is not subject to the same extent to the fire hazard because the lint [fol. 617] has been reduced to a greater density per cubic foot and thus does not facilitate the starting of a fire or the spreading of a fire; fourth, the width of the vehicle loaded with uncompressed cotton as depicted in the attached picture is much greater than is the width of the vehicle loaded with compressed cotton although both trucks are loaded with the same quantity of cotton. The truck with the compressed cotton does not occupy the same amount of space on the highways as the truck loaded with uncompressed cotton, either in width or in length.

Fifth, the height of the truck loaded with uncompressed cotton is much greater than the vehicle loaded with compressed cotton although both vehicles are loaded with the same quantity of cotton. Both vehicles are standing the same distances from the building and the difference in the height may be judged by the fact that the roof of the building is the same height at both points opposite both vehicles thus the motor vehicle loaded with compressed cotton does not present the same dangers from toppling and spilling the load on the highway as the vehicle loaded with the uncompressed cotton.

(Attached to the foregoing affidavit is the following affidavit and picture:)

[fol. 618] AFFIDAVIT OF GEO. E. MARSHALL

THE STATE OF TEXAS,
County of Dallas:

Before me, the undersigned authority, on this day personally appeared Geo. E. Marshall who being by me first duly sworn on his oath state:

My name is Geo. E. Marshall. I am a resident of the City of Dallas, County of Dallas, State of Texas.

For many years I have been engaged in commercial photography for all purposes in the city of Dallas, County of Dallas, State of Texas.

Sometime during April, 1931, I was engaged for the purpose of taking a photograph of certain cotton trucks at the warehouse of the Farmers & Merchants Compress & Warehouse Company, Dallas, Texas. The attached photograph is the exact picture which I took of the two motor trucks loaded with cotton in front of said warehouse.

(The photograph is marked "Exhibit No. 22," and is sent up as an original exhibit.)

The picture is an exact reproduction of how the two motor trucks appeared when loaded with cotton and is a true and correct exhibit of, first, a motor truck loaded with uncompressed cotton; and, second, a motor truck loaded with compressed cotton.

Geo. E. Marshall.

Sworn to and subscribed before me this 7th day of July, A. D. 1931, to certify which witness my hand [fol. 619] and seal of office. (Signed) Kathleen Freeman, Notary Public in and for Dallas County, Tex.

[fol. 620] NEWT HUMPHREYS stated: I live in the City of Brenham, Texas, and am chief of police of said city. During the time that I have been chief of police at Brenham during the past few years, I have had occasion to observe and have had considerable experience in the mode, manner and method of operation of what is commonly called cotton trucks operating over the highways of this state.

During the time that I have worked in Brenham we have had five deaths caused by cotton trucks. There were two killed on Thanksgiving day at Chapel Hill by a cotton truck. There was a wreck between a cotton truck and bus in which the cotton truck was entirely to blame; one man got killed and twelve or thirteen people were injured; one girl was permanently injured, probably crippled for life. There was a boy killed a little over a year ago right out of Burton, and one fellow had his leg cut off in a wreck with a cotton truck. We had about at least a dozen wrecks between cotton trucks and passenger cars.

You can go all the way from Austin to Houston, the right-hand side going to Houston through Brenham and going

into Houston is broken up and as a whole is in bad condition, caused from heavy loads of cotton trucks. The same highway going west, where the trucks are empty, the roads are in fairly good shape. They were so bad about breaking [fol. 621] up roads in and about Brenham, we had to change the ordinance at one time so as to prohibit these cotton trucks driving through the Main Street. So I stationed myself down at the Magnolia Filling Station on the road approaching the city and turned all cotton trucks down the other way, and one day turned 53 trucks. To give you an idea of the traffic, these 53 trucks were turned between 8:30 to 11:00 A. M. and from about 1:30 to 4:00 P. M., and these are not the hours of heaviest traffic. Between 4 o'clock in the morning to about 10 o'clock is the heaviest traffic. There is a straggling traffic all night and the roads are never free of traffic, but most of the night traffic is made up of empty trucks coming back.

On numerous occasions the citizens of Brenham, returning from Houston, are passed up by empty cotton trucks with trailers going 60 miles an hour. You can get affidavits from bankers, lawyers and doctors to this effect. I have passed loaded cotton trucks making from 30 to 35 miles with the brakes on truck and no brakes on the load. It is impossible to stop a truck within 100 yards when it is loaded with cotton going at that speed. I have gone as fast as 50 miles an hour to pass a cotton truck on the road, not once but several times. I came back from Austin once during the cotton season and passed a string of, I believe, five or six loaded trucks, and I was traveling about 45 miles an hour when I caught up with them and when I had gotten [fol. 622] around them it was about 60 miles. After I passed them I was making about 45 in to Giddings and they stayed in sight of me.

We had a bale of cotton jump off from one of these trucks, it was dumped on top of a Ford car and broke the top off. There was another accident: a fellow had his elbow lying out on the side of the car, probably sticking out six inches; it was struck by a passing cotton truck and cut his arm off, the car never touching the cotton truck.

Cotton trucks came down on Main Street of Bernham and Mr. Simmons, who has the Texas Garage, had a gasoline pump on the sidewalk and one of the trucks evidently got too close to the sidewalk and knocked the pump off.

We had the fellow arrested for reckless driving, but, so far as I know, Mr. Simmons never got any adjustment.

A man who works in a store took his folks riding one day and a cotton truck passed him and a second cotton truck following the first crashed into him. Some of the children were hurt and his wife was badly bruised and shaken up, and the damage to the car was about $30 or $40. After the matter was settled I asked the driver how it happened, and he said he was asleep or was dozing and when the first cotton truck went around the car he did not see it, and when he opened his eyes he saw a tail light and thought it was the cotton truck and the next thing he knew he had hit the car.

During the cotton season, I believe, about 100 trucks pass [fol. 623] through Brenham daily and out of the 100 trucks heavy hauling, eighty or eighty-five percent are cotton trucks, possibly more, but I know that there are at least that many. In our county at least 90% of the people are strongly opposed to these cotton trucks on the road and would like to see them off the road entirely, but if that is not possible, see them properly regulated.

You take an empty truck going down the road as fast as 40 miles an hour, the back end swinging around will vary three to four feet further to the side than the front of the truck. The average load coming through Brenham carried about 28 bales—that is about a 7-ton load. One night I had a phone call to Mr. Woods' apartment, which is right across from the Washington Inn. They were changing the tires and making a lot of noise. When I got the fellow quieted down, I counted 42 bales on his truck.

C. V. TERRELL stated: I am the present Chairman of the Railroad Commission of the State of Texas, and have served as a member of the Railroad Commission since August 15th, 1924.

Under the laws of Texas, the Railroad Commission is charged with the regulation of motor carriers on the public highways of the state and the enforcement of the laws per- [fol. 624] taining to such motor carriers. Under the old law, being Chapter 314 of the Acts of the 41st Legislature, Regular Session, as amended at the Second Called Session thereof, there was no adequate provision made for regula-

tion of some of the classes of commercial vehicles. The class A motor carriers as defined under the former law were regulated. The lack of adequate regulation for B trucks and no regulation at all for contracts trucks, demoralized the truck transportation on the highways of the state and seriously affected the operation of common carrier motor trucks thereon. The law was so framed that it only affected those trucks that originated freight in an incorporated town, city or village, and to be delivered to an incorporated town, city or village, that only gave us jurisdiction of about 1,500 trucks in the state compared with 206,000 that were licensed by the Highway Department, which was so small a percent that it hardly amounted to any regulation at all. During recent years there has been a very marked increase of motor carrier operation in the state, and in the last two years this character of transportation has been phenomenal. The number of unregulated operators, mainly contract carriers, under the present law has increased approximately three or four hundred percent since 1928.

As a member of the Railroad Commission and as Chair-[fol. 625] man of that Commission, I have given careful thought to the regulation of motor carriers on the public highways. I am firmly of the opinion that the public interest as to safety on and protection of highways, and as to the provision of economical, efficient, and orderly transportation thereon, requires that all character of vehicles using the highways for hire be regulated to as great a degree as possible.

There now exists a chaotic condition on the highways of the state to the great detriment of the public interest. I am of the opinion that it is necessary in order to have an orderly, economical and efficient regulation of commercial transportation on the highways that the contract carrier, as defined by the present law, as well as the common carrier, be regulated and that one of the essential requirements in the regulation of a contract carrier is the ability of the Railroad Commission to fix the minimum rates charged by such carrier.

As Chairman of the Railroad Commission of Texas, I am in position to state, and I do state, that it is the purpose of the regulatory laws mentioned to foster within reasonable bounds commercial transportation on the high-

ways of Texas, and that this purpose involves the further purpose of primarily fostering and serving the business of common carriers on the highways. In this connection, the experience the Commission has had in endeavoring to regu- [fol. 626] late highway transportation demonstrates that unregulated contract carriers as defined by the present law, effectually prevent the primary purpose of fostering and conserving for the general public welfare that commercial transportation on the highways which it has been the purpose of the laws of Texas and the rules of this Commission to foster and protect. The common carriers, who have seen fit to take out certificates of convenience and necessity under the laws of Texas heretofore have found the cream of business taken by Class B motor carriers, as defined by the former law, and contract carriers, as defined by the present law, who solicit and take that business which is convenient for them to handle and who underbid the common carriers for such business, thus thwarting the purpose of the regulatory laws mentioned.

Wherefore I am constrained to say that the business of these contract carriers, as defined by the present law, should be regulated in order to bring about an orderly transportation system in Texas. It has been the policy of this Commission to avoid the very appearance of any act which would influence legislation concerning any of the subjects of regulation by the Railroad Commission, and has been, and now is the policy of this Commission to attempt in every reasonable way to enforce and administer the laws as written by the Legislature. We do not at any time question the wisdom of the Legislature in any legislation enacted by it.

[fol. 627] If only the Class A motor carriers under the former law are regulated under the present law, and the Class B motor carriers under the former law, and the contract motor carriers, as defined by the present law, are not regulated as to their rates, the Class A motor carrier under the former law, and all other common carriers, as defined under the present law, will be so seriously affected by unfair competition that a chaotic state will exist to the great detriment of the public. The control of contract carrier service is so inextricably related to common carrier service that it is necessary to fix its rates and regu-

late its service in order to have an orderly and systematic transportation service which will not result in discrimination for or against any community or individual.

DAN MOODY stated: I held the Office of Attorney General of Texas from January, 1925 until January, 1927, and thereafter, the office of Governor of Texas from January, 1927 until January 1931. During my tenure in the office of Governor, it became my duty to appoint, and I did appoint, a State Highway Commission charged by law with certain duties pertaining to the building and maintenance of highways in this state. At various times and on different occasions between January, 1927 and January, 1931, I conferred with various members of the Highway [fol. 628] Commission of Texas, and employes of the Highway Department of Texas, touching on the subjects of the building and development of a system of highways in this State; the maintenance of highways; the cost of building and maintaining highways and the means and methods of raising funds necessary for the construction and maintenance of highways. From conferences with engineers employed by the Highway Department and from observation in traveling over the highways of Texas and from items appearing from time to time in the newspapers, I formed certain conclusions regarding the use of the highways by large commercial motor vehicles and the effect of such traffic upon the highways and the results of this traffic to the general traveling public using the highways.

I felt it my official duty as Governor of Texas to direct the attention of the Legislature to the subject of Highway Construction and Highway Maintenance and the methods of financing this part of the public business. I further felt it my official duty to present to the Legislature the subject of the regulation of commercial motor vehicles engaged in the use of the public highways.

An expression of by views on these subjects was embodied in my message to the Forty-second Legislature and such recommendations as I cared to make to the Legislature on these subjects were made in this message. I have had copied from the House Journal, January 15, 1931, [fol. 629] Page 21 of the 42nd Legislature, a part of my

message on the subject of Highways, as it appears therein, and I have attached such copy thereto and mark it for identification "Exhibit A."

I have had copied from the House Journal, January 15, 1931, Page 25, 42d Legislature, a part of my message as it appears therein, on the subject of Motor Vehicles, and I attach such copy hereto and mark it Exhibit "B" for identification.

My views, as expressed in this message, were formed upon such information as I had been able to gather from the sources available to me, on the subjects discussed, and from my personal observations.

EXHIBIT "A"

Highways

Much has been done in the last four years toward taking Texas out of the mud and placing it on a finished highway, but there are thousands of miles of State Highways yet to be built. The financing of State highway construction was a problem when the department was established and it remains a problem. In the early stages of State Highway construction, it was necessary to adopt the policy of calling upon local communities to assist in meeting the cost of highway construction, but the continuation of this policy has appeared unwise for some years. It has resulted in the issuance of many millions of dollars of road bonds and the placing of an excessive tax upon the homes, farms and ranches to pay interest and redeem bonds. It has made the [fol. 630] building of State highways depend upon local initiative and has precluded the possibility of formulating and carrying out a State-wide program of highway construction. It is in a large measure responsible for the fact that the good highways of the States are broken here and there by stretches of bad road through counties and districts that have refused to contribute to the cost of road improvement. A change was made in the laws some years ago to make possible the completion of a connected system of highways by improving the bad stretches at the expense of the State highway fund, but the amount of the State highway fund has limited the practical benefits derived from this amendment. The most serious consequence of the

policy is the fact that land and homes are taxed beyond their ability to pay, while traffic which uses the highways and receives the first benefit from the construction moves at a comparatively low cost, the relative benefits to agricultural lands and traffic being considered. It is no exaggeration to state that in some counties and districts the road bond tax is positively oppressive on owners of farm lands and small homes.

The State should without delay make provision to assume payment of all outstanding bonds, proceeds of which have been used to pay the cost of State highway construction. The justice of such a policy can be thoroughly defended [fol. 631] because State highways are intended for through traffic, including interstsa traffic, and are not purely local convenience. If the benefited properties pay the cost of building and maintaining lateral and local roads, these properties will contribute their part to highway construction. It is to be remembered that while the designated highway mileage totals about 20,000 miles there is more than ten times this mileage of local and lateral roads. The burden of improving State highways should be taken off the backs of farmers and small home owners, and the traffic which receives the first and greatest benefit from highway improvements should be taxed to meet the cost of constructing the system of State and Federal designated highways.

When the total of all funds available for State highway building is reduced by the amount of the county and road district contributions other revenue will be necessary, if the present enlarged program of highway construction is to continue. There are but two ways such revenue can be raised to maintain the present income of the highways fund after county and district aid is discontinued; first, by higher rates of current taxation, or second, by issuing State bonds and pledging revenues of the highway fund to redeem the bonds. The normal increase in highway revenues from present rates of taxation will not for the present amount to [fol. 632] as much annually as is contributed by counties and road districts.

The best public policy is for the State to assume the payment of county and road district bond issues used to help pay the cost of State highways, and relieve the counties and road districts of further contributions to the cost of State highway construction, and continue the present program of

highway building with funds derived from the issuance of State bonds to be paid by pledging part of the revenues received by the highway fund from current taxation. This would be a combination of the bond plan and the pay-as-you-go plan of constructing State and Federal designated highways. The objective should be to give the Highway Department a stabilized income in order that it may plan a program of construction over a period of years instead of having to limit its work to a month to month program.

EXHIBIT "B"

The increased use of motor vehicles in commercial transportation has developed a difficult and perplexing public problem. Our roads are being taken and badly used by motor vehicles engaged in the transportation of passengers and freight for hire. Some of these vehicles are so large and travel at such high speed that they make highway travel extremely hazardous. When the saving this business [fol. 633] brings the public in the cost of its transportation is compared with the damage which heavy freight and passenger traffic are doing the highways, it is doubtful whether the motor truck and motor bus business is being operated economically from the standpoint of the public. Laws should be enacted placing further limitations upon the size and weight of the busses and trucks that may be legally operated upon the public highways of this State. The most modern and improved safety devices, appliances and practices should be required by law. In enacting a law placing further limitations upon the size, weight and speed of trucks and busses, a reasonable time should be allowed to dispose of trucks and busses, the use of which would be prohibited by such limitations. This can be accomplished by fixing the date that such bill would become effective. If busses and trucks are operated over routes parallel to existing lines of railway, and in competition with them, it seems evidence that under the policy of the Federal Government, as declared in Transportation Act of 1920, that the people will ultimately be called upon to pay higher rates on commodities which must move by rail, and that the same may exceed the public's saving accomplished by cheaper bus and truck rates. Motor vehicles are here to stay as a means of commercial transportation, and should stay, but thought

should be given to placing motor vehicle transportation in [fol. 634] the field which will be of the greatest economic value to the whole people. If trucks and busses are to operate in competition with railroads, and at considerable damage to highway development, and if, because of the reduced business of the railroads, the public is made to pay higher railroad rates on commodities moving by rail, it is hardly possible that under such conditions the truck and bus transportation could be economically profitable to the general public. It is altogether possible that the field of economic usefulness of truck and bus transportation is under ownership independent of railroads and operating as feeder to existing lines of railway and to supplement the service rendered by railroads in local freight and passenger movements.

The Railroad Commission should be given authority to check returns and determine accurately the gross and net income of commercial motor vehicles with the view of determining whether such business should pay a gross receipts tax to help the highways.

E. M. Davis stated: I live at Brownwood, Brown County, Texas. I was during 1925 to 1930, inclusive, County Judge of Brown County, and during which time I was President and Secretary of the County Judges' and Commissioners' Association of Texas. I am now a member of the Legisla- [fol. 635] ture of Texas, being Representative from the 125th District, including Brown and Coleman Counties.

During the regular session of the Forty-second Legislature I was a member of the Committee on Highway and Motor Traffic and a member of the Free Conference Committee which passed upon House Bills 335 and 336 and, as such, heard and weighed all of the testimony, arguments and views expressed before the Legislature concerning these bills and my actions and opinions as hereinafter expressed were partly based upon these considerations.

Not only as County Judge, but also as Representative in the Legislature, have I had forcibly called to my attention the problems in this State arising out of the construction of our highways and the use thereof, and the purpose of this affidavit is to give something of my observations and views on that subject.

In my own County, we are now projecting a road program which, when completed, will give us ninety miles of state highway, constructed of concrete, and we have additional mileage of improved highways approximating one hundred and fifty miles. In considering the financial investment necessary to complete this program of construction in Brown County, we were compelled to take into account the prospective use of the highways, the value thereof [fol. 636] to the public, and the safety of the public in such use. Observation had taught those of us who were dealing with this problem that commercial transportation in this State was rapidly increasing. It has been my personal observation that heavily loaded trucks rapidly deteriorate the highways, and even in cases where the construction is of concrete, the extreme weight of loads will break them down, first causing the underlying foundation to sag and produce waves in the road. My section of the State is largely agricultural and the road building program rests quite heavily on the farmer. Of necessity we are compelled to take the farming community largely into account in undertaking such expenditures and we must think of their right to use the highways and of their welfare and safety in such use. We are now materially affected by the passage of heavy commercial vehicles and by long trains, almost, of motor vehicles on these highways, and it is quite apparent that regulation has become necessary. We have three major highways passing through Brownwood, the County seat of Brown County. They are United States Highway 67, from St. Louis to Dallas and from Dallas, through Brownwood to San Angelo and Presidio, at which point it will connect with a national highway from Presidio to California; United States Highway from Oklahoma through Fort Worth to Brownwood, ultimate destination Del Rio; and United States Canada-Gulf Highway from [fol. 637] Saskatchewan, Canada to the Gulf of Mexico, which has already been designated to Brownwood, Texas, and ultimately to be designated to Corpus Christi. These highways have not, of course, been completed with improvements throughout the entire routes thereof, but such improvements are in course of construction or in prospect at early dates. As a result, we have a heavy volume of this commercial transportation through our county.

As a member of the Legislature of Texas, I consistently advocated the placing of all commercial vehicles under the regulation of the Texas Railroad Commission. I mean by commercial vehicles those which are defined in House Bill 335 as motor carriers. I had in mind in advocating these measures to promote on the highways for the benefit of the general public efficient and economical transportation in the detail of transportation and, at the same time incidentally so regulating the handling of such transportation as to enable the Commission to promote safety as well. This matter of safety in some quarters is considered to be of dubious import in connection with House Bill 335, but the mere placing of all motor carriers, as defined in that Bill, under the jurisdiction of the Commission, with authority in it to make regulations as to licensing all drivers, hours of operation, termini and minimum rates to be charged, will tend to promote safety as well as public welfare otherwise. The primary value of Bill 335, however, [fol. 638] is that it promotes an economic and efficient system of transportation on the highway. It is impossible, and the Legislature so perceived in passing this legislation, to promote and conserve efficient use of the highways unless we are permitted to regulate, in the manner set forth in House Bill 335, the contract carriers as well as others. The chief difficulty lies in that the so-called contract carriers take to the road in large volume, underbidding all of the common carriers, procuring thereby the cream of the business, operate when they please and where they please, and it is impossible to keep any efficient check of them or regulation over them in absence of authority on the part of the Commission to regulate them as provided in the Bill.

House Bill 336 meets the necessity for preserving the highways, lessening the expense of maintenance, lessening the hazard of operation thereon and increasing the convenience in the use of the highways to the general public. From my own observation, I am covinced that the restrictions as to height, width, length and weight and speed are essential in order that these purposes be accomplished. The limitations set forth in House Bill 336 are not considered extreme in the light of my own observation; in fact, I advocated even more stringent limitations than those permitted by that bill. My viewpoint is illustrated by some of my own experiences. In January, 1931, I had occasion

[fol. 639] to go from Austin to Houston and the entire length of the highway, until I reached Harris County, had a surfaced width of sixteen feet. This was the dullest period of the truck season and particularly the cotton season, and on my way from Austin to Houston I followed nine trucks a total distance of thirty-six miles and was unable to pass the trucks until I reached some village. Most of these trucks were loaded with cotton. On my way back from Houston Austin I met thirty-seven trucks, most of them cotton trucks, and on account of the recent rains I was forced every time I met a truck to drive off the surfaced portion of the highway and come to a stop to permit the truck to pass. I estimate that this delayed me a total of some three hours in going to and coming from Houston.

I feel that I should give this further viewpoint in connection with the Legislation under discussion. The Legislature is compelled, of course, to adjust its regulations to the highway system of the State as a whole. It is a task at best so difficult that the Legislature cannot undertake classifying the roads and permitting varying heights, widths, weights and lengths, and it is not thought that this will be a wise policy in any event. Adjusting, therefore, the legislation to the average roads, the restrictions adopted were practically the maximum that could conven-[fol. 640] iently and safely be adopted. As *As* reflecting the public sentiment in my territory on this subject, and to conclusively show that these bills were not the product of the activities of any special interest, I wish to state that every Chamber of Commerce in the communities of the district I represent and in the adjacent districts unanimously endorsed the restrictions and regulations found in these laws. I want to state that I spent two Saturdays in my two counties, making inquiries from citizens and farmers and various and sundry persons, and except for the truck men themselves. I found practically a unanimous sentiment in favor of the truck regulations as proposed by the Legislature and as finally passed by the Forty-second Legislature.

I found that my colleagues in the Legislature were similarly affected, not only by the merits of the questions involved, but by the sentiment found in their communities. I wish to add in conclusion that the sentiment still is as

stated and my people are crying for the enforcement of these laws.

I am not in the employ, directly or indirectly, of any railroad company or interior compress of the State of Texas, and have no relative, directly or indirectly, so employed, and have no financial interest in any railroad or interior compress and my interest is fully reflected in this affidavit.

[fol. 641] MARK MARSHALL stated: My name is Mark Marshall and I reside in the city of Austin, Texas. My official position is that of Director of Motor Transportation Division of the Railroad Commission of Texas. I have held this position since the Division was first organized in June, 1927. This Division is charged with the duty of administering and enforcing the laws of Texas affecting the transportation of persons and property over the highways of this State. In the performance of my duties, I have had occasion to familiarize myself with the conditions of highway transportation and have had occasion to investigate personally and officially the many problems of proper regulation of motor vehicle transportation.

The experience of this Division has demonstrated the necessity for proper regulation of motor vehicles transporting passengers and property for hire over the highways of this State. This is true of all classes of motor vehicles using the highways for the purpose of gain. Such regulation is necessary for several reasons. In the first place, the proper regulation and licensing of persons driving motor vehicles for hire results in greater safety and convenience to the traveling public. The Commission has adopted certain requirements before a man is licensed to drive a motor bus in this state. We require that he furnish satisfactory evidence that he is sober, responsible, [fol. 642] capable and physically sound, before he is issued a license. This requirement has very materially raised the efficiency and responsibility of the personnel of motor bus operators in this State. It has reduced accidents, injuries and deaths on the highways of this state.

As an illustration of the effect of proper regulation and licensing of operators, the record of passenger motor

busses is enlightening. Since June, 1927, when regulation of passenger-carrying vehicles was inaugurated, motor busses have carried approximately 4,750,000 people per year over the highways. During this time, only four passengers have been killed as a result of such operation. Three of those were killed in an explosion of a moving picture film which was being carried on the bus, and the other was killed as a result of being sideswiped by an unregulated motor truck. Prior to the time that regulation was enforced, numerous accidents and deaths were reported in all sections of the State. It is my opinion that proper regulation of the drivers contributed very materially toward the reduction in injuries and deaths which has been shown. At the time of the explosion of motion picture film above referred to, the Commission had in effect an order prohibiting the transportation of explosives by motor bus companies.

This Division has had the same experience since the regu- [fol. 643] lation of motor trucks has been in force. From the records on file in my office and from my own personal experience and observations, it is my opinion that the operators of motor trucks carrying property, who are under the regulation of this Division, have fewer accidents and cause fewer injuries on the highways of this State than the operators of motor trucks who are not subject to the supervision of the Commission. Since the regulation of motor trucks became effective in August, 1929, there has been a considerable decrease in the number of companies operating under the supervision of the Railroad Commission. For example, on December 31, 1929, there were 462 Class A operating certificates in force, and in August, 1931, when the old law became inoperative, there were only 364 operating companies of this class. There were issued in the fall season of 1930, 187 temporary emergency commodity certificates restricted to the hauling of cotton. On August 21, 1931, only 76 of these companies were still operating. It is my opinion that the decrease in the number of operating companies of these two classes brought about an increase in Class B operators, for the reason that on December 31, 1929, there were only 2190 Class B trucks in operation, while on August 21, 1931, there were 3168 Class B trucks. It is my opinion that the Class A opera-

tors and special commodity operators discontinued opera-
[fol. 644] tions as such and went into Class B hauling, because rates and routes were not prescribed for Class B operators. The decrease in special commodity certificates restricted to the hauling of cotton from 187 to 76 was due to the fact that when rates were prescribed by the Commission, a great many of this class surrendered their certificates and went into contract hauling, where rates were not prescribed.

The use of the highways for hire can not be successfully supervised and regulated unless the Commission is empowered to fix minimum rates. One of the results of the enforcement of the former law was to materially reduce the number of private or contract carriers. This tendency was so marked during the past year or so that had the law remained in force, it is my opinion that the common carrier truck or *or* Class A truck operator would have been forced to surrender his Class A certificate and engage in private and contract carriage only. The contract or private carrier was not required to charge the rates fixed by the Commission for common carriers. The result was that there was a constant decrease in the rates charged by the private or contract carriers. This resulted in a material decrease in Class A revenue, more inefficient service on their part, and a general lowering of Class A standards. Ultimately, practically all of the property hauled over the highways of
[fol. 645] this state would have been carried by unregulated and unsupervised trucks. This would have brought about the same condition which existed prior to 1929, when regulation was first undertaken by the Commission. Our experience has shown that without proper regulation, the number of trucks hauling commodities would have greatly increased, adding to the congestion of the highways and endangering the safety of the traveling public to that extent. As I stated, the only way this condition can be corrected is in the manner provided by House Bill 335, which is now in force. If the Commission is empowered to fix a minimum rate for contract carriers, the confusion and chaos which existed prior to its effective date can be eliminated. The character of drivers will be raised, the number of trucks operating on the highways will be reduced, the traveling public and the property hauled on trucks will be

indemnified against injury to the person and against loss or damage of cargo.

It is my opinion that the rates charged by many contract carriers is below the cost of operation.

W. R. Ely stated: I am chairman of the Highway Commission of Texas, having served as a member of said Commission since 1927 and having been chairman of the Commission since January of the present year. Since the creation of the Highway Commission of Texas, the State highways have been constructed under its supervision and as a member of the Commission, it has been my duty to, and [fol. 646] I have, familiarized myself with the condition of the highways throughout the State. I know the character of their construction and in a general way the cost of such construction and the cost of the maintenance thereof and the amount of traffic thereover.

I know that the greater number of improved highways in the State today were intended for a lighter traffic than that for which they are being used. That the damage being done to these highways results largely from the use of over-sized and over-loaded commercial trucks.

Recognizing the increased cost to the State in the construction and maintenance of these roads on account of this use, the Commission, at the request of the Senate, made definite recommendations to the 42nd Legislature as to the character of legislation that should be enacted to proper regulate the use of these highways by this character of traffic. I attach hereto and make a part of this affidavit, a copy of such recommendations and have marked the same Exhibit "A" for identification.

Unless and until legislation is made effective regulating commercial trucks in the length, height, width and weight of their load, the maintenance of these highways will be excessive and their use by the public will be dangerous.

I am familiar in a general way, with the difficulties incident to the enforcement of the regulations governing the [fol. 647] use of the highways by these commercial vehicles and I know that these regulations cannot be enforced unless authority is vested in some agency of the government to require a strict method of reporting and accounting for

the number of trucks and the extent of their operations on these highways. Trucks of excessive length or width or of height are a constant menace to the safety of the lives of the public in its use of the highways and these over-sized and over-loaded trucks are the cause of the larger part of the wear and tear to these highways and greatly increase the maintenance cost.

I am familiar with the recent laws enacted by the 42nd Legislature contained in what is known as House Bills Nos. 335 and 336. It was the opinion of the Commission, of which I was chairman, that if the regulations contained in these bills were made effective, that the large part of the hazards incident to the use of the highways would be eliminated and the cost of construction and maintenance of the highways would be reduced.

EXHIBIT "A"

The State of Texas, State Highway Department, Austin

February 4, 1931.

[fol. 648] To the Senate of Texas.

GENTLEMEN: We have copy of Senate Resolution No. 10, adopted January 19, 1931, requesting us to submit information and data within our possession touching the operation of trucks and bus lines over the State highways, and relating to injury to the highways and danger to persons and property, together with our recommendations as to such measures as we deem necessary.

1. As to the Maximum Weight of Vehicles and Loads.

It is respectfully submitted that very great damage has been done to the highways of Texas in the past few months which may be attributed to too much weight and too much load now allowed vehicles under the law of this State. The Department has in its possession certain data as to the effect of overloading on highways which is available to the Legislature and which you may secure from Mr. Gibb Gilchrist, State Highway Engineer.

There are many highways in Texas that should not carry more than a maximum weight of 5,000 lbs. while other highways could easily carry 20,000 lbs. If trucking privileges should be granted to only Class "A" trucks, and Class "B" trucks and unclassified trucks operating under con-

tract abolished, then it should be easy to protect the highways not able to carry the unusual loads, as the Railroad [fol. 649] Commission, in granting Class "A" permits, should take into consideration the character of highways to be traversed by such trucks. In this connection we desire to state that the law should be so amended that the Railroad Commission should be required to secure the permission of the Highway Department before granting permits for certain classes of trucks to operate on certain roads.

Several States have laws giving their highway departments power and authority to classify highways under their jurisdiction as to the amount of tonnage that shall be permitted on such highways, and we are of the opinion that a few of this kind in our State would have a tendency, in a measure, to solve the problem of too much weight on the highways.

Under Article 834 of the Penal Code authority is given the Commissioners' Courts or the State Highway Commission to regulate the tonnage of trucks and heavy vehicles, which, by reason of the construction of the vehicle or its weight and tonnage, shall tend to rapidly deteriorate or destroy the roads, bridges and culverts along the particular road or highway sought to be protected, and requires that notice shall be posted, and state the maximum load permitted, etc., but the Article further gives the operator of any such vehicle the right to complain, in writing, to the County Judge of such county, and makes such County [fol. 650] Judge the final arbiter as to whether or not such vehicle might be operated on the road in question. Our opinion is that that statute should be amended so that the Highway Department will have sole jurisdiction in the matter of whether or not certain vehicles should be used on particular roads. Our conclusion is that the depreciation of the highways is due to heavy loads hauled over them and not to the large number of private automobiles and light trucks that are being used and that the only way that their destruction can be stopped is to reduce the weight of the loads.

2. The Height, Weight, and Other Dimensions of Vehicles and Loads

Relative to this inquiry it is respectfully recommended that, in our opinion, the height of vehicle and load should

not exceed twelve (12) feet. During the past ten years there have been quite a number of underpasses constructed on the State highways of Texas. There are probably one hundred underpasses in the State of Texas which have a vertical clearance of less than 14 feet. Some of them have a vertical clearance of less than 10 ft. Between Fort Worth and Vernon there are three locations where the underpasses have clearances less than 12 ft. One of them is at Bowie, under the F. W. &. D. C. R. C., for which the clearance is 10 ft. Two are at Wichita Falls which have a clearance of 9 ft. 9 inches under the F. W. & D. C. R. R., and under the F. W. & D. C. Railroad at Oklaunion near Vernon [fol. 651] the clearance is 10 ft. 11 inches.

There are two hundred or more bridges on the State Highway System which have been built in the last twelve years which are of the through truss type in which the portals have a clearance at the center of 14 feet and at the sides of only about 11½ ft., making a total of three hundred structures on the State Highway System which have a vertical clearance less than 12 ft. for the entire width of roadway. However, for the steel spans which have portals with side brace the part of restricted clearance on the side is for a very short distance and as a usual rule there is a width of 10 ft. in the middle of the structure which has a full clearance of 14 feet, but this brings about an unusually dangerous condition when a large moving van is crossing a bridge and is met by another car. The moving can has to move over to one side to let the other car get by and as a usual rule the driver of the moving can forgets about the side brace and portal of the span and as a result collides with the same which results in damage.

The American Association of State Highway officials, an association composed of both State and Federal officials, whose committees constitute the medium of expression of the Federal Bureau of Public Roads on the regulation of commercial vehicles, and the composite opinion of the various State Commissions, have given this subject consider- [fol. 652] able attention. This Association has recommended that the maximum gross height of load should not exceed twelve (12) feet. The National Conference on Street and Highway Safety has likewise recommended a maximum gross height of load of twelve (12) feet.

Relative to the width of vehicles we quote from our Biennial Report which is not yet off the press.

"We want to renew our recommendation of two years ago and again urge that more restrictions be placed on the size and weight of vehicles using the State Highways and that more enforcement facilities and personnel be provided. We believe that the authorized maximum width of any vehicle should be between 84 and 90 inches, preferably the former, but certainly no greater than 90 inches, and that the height be restricted to twelve (12) feet."

Safety cannot be maintained without ample clearance. Vehicles of greater width than 84 to 90 inches are not safe on an 18 ft. highway. Glaring lights are one of the big hazards which the motorist has to face. In the absence of a clear center-line marker, one is subjected to danger every time he meets a big car on the highway at night. This danger is greatly augmented when the pavement is wet. The tendency is to turn out to make the clearance sure and a new hazard threatens in the liability of the right hand [fol. 653] wheels running off the pavement into the soft mud. Our judgment is that 84 inches would be much safer than 90 inches.

With respect to length of vehicle, we recommend the maximum length of any combination of vehicles coupled together should not exceed 45 feet, and the maximum length of any single vehicle should not exceed 30 feet.

3. The Speed for the Operation of Such Vehicles

We recommend that a maximum speed for a motorbus be limited to thirty-five (35) miles per hour, and for trucks from twenty (20) to thirty (30) miles per hour, depending upon their weight. We believe that the present law regulating the speed of commercial vehicles is too lenient. The law is worded in such a way that it applies only to the gross weight of a motor vehicle and does not apply to the gross weight of a motor vehicle with trailer attached. In other words, a truck now may lawfully be operated on the highways where the truck is of a gross weight of 10,000 lbs. and a trailer of a gross weight of 10,000 lbs., at a rate of speed of thirty-five miles per hour, which, in our opinion, is entirely too fast for a gross weight of 20,000 lbs.

We further respectfully recommend that the penalty for the violation of laws regulating the size, weight, height and speed of commercial vehicles be increased.

4. Such Other Recomendations Regarding This Matter as Said Commission May Desire to Submit

[fol. 654] We recommend that within a reasonable time that the use of solid or steel tires on motor vehicles weighing more than 2000 lbs. be prohibited.

There are many other matters respecting the operation of motor vehicles upon the highways that we might mention but the information and experience of the officials in the Highway Department will be available at any time required.

Respectfully submitted.

(Signed) W. R. Ely, D. K. Martin, Members of the Commission.

[fol. 655] The complainants having offered in evidence an order of the Highway Commission, as shown by exhibit herein, the Respondents were permitted to offer in evidence the opinion of the Assistant Attorney General of Texas with reference to and in connection with said order, the same being as follows:

OFFER IN EVIDENCE

"Highway Commission of Texas, Austin, Texas.

Attention Mr. Wallace

GENTLEMEN: Upon the request of Mr. John F. Wallace, we are again referring to your communication of September 30th, addressed to General Allred, and particularly to the permit provisions of Chapter 282, Acts of the Regular Session of the Forty-second Legislature and the effect thereof on the prior legislative act, known as Chapter 41, Acts of the Second Called Session of the Forty-first Legislature.

As was correctly stated by Assistant Attorney General Stanford in his reply to your letter, unless a prior act is

in terms repealed, it should be construed prospectively with successive acts relating to the same subject matter, and unless the later act is clearly in conflict with the prior one, effect should be given to both. He further correctly advises you that there is no substantial conflict between the essential provisions of either act.

In this state of the law, you have requested me to [fol. 656] advise the Commission of its powers and duties in connection with the granting of permits to motor vehicles exceeding the limitations of the present law.

Section 2 of the recent act makes it a violation of law to operate a motor vehicles, exceeding the dimensions or weight prescribed by the act. This classification covers the usual and ordinary commodities which are transported from place to place in the ordinary and usual vehicle.

There is another and a smaller class of commodities which is excluded from the general terms of the act. This class is described in Section 2 as "such overweight, or oversize or overlength commodities as cannot be reasonably dismantled." The question of whether a given commodity exceeding the dimensions prescribed in the act can be reasonably dismantled is peculiarly one of fact in each case. For example, a telephone pole fifty feet in length cannot be reasonably dismantled. A person desiring to haul such a commodity is entitled to a permit under the terms of the act.

The Commission has no discretion where the facts exist which are described in the act. If the commodity cannot be reasonably dismantled, then the permit should be issued as a matter of right. In the performance of this duty the Commission, through its agents, is acting as a fact finding body and in an administrative capacity.

The section under discussion has already been construed [fol. 657] by a three-judge Federal Court in the case of Sproles vs. Binford, No. 476 in Equity, Houston Division of the Southern District of Texas (not yet reported). Judge Kennerly said:

"The plain purpose is to permit and make provision for the transportation over the highways of those commodities, extraordinary in length, weight or size, which (and the equipment upon which they are handled) cannot be reasonably dismantled, and which are not everyday, but are un-

usual, loads, and which, but for this or some similar provision, could not pass over the highways at all. The authority given by this Section to the Highway Department and its agents in each county is not to suspend the laws, as was the power conferred, or attempted to be conferred, upon the Highway Department in Ex Parte Faison, 248 S. W. 343, but is of a fact-finding and administrative nature. Trimmier v. Carlton, 118 Tex. 591, and cases there cited. Texas Jurisprudence, Volume 9, Section 70, and cases cited in foot notes. Ruling Case Law, Volume 6, Sections 175 and 179. The particular fact to be found is whether the commodity or equipment is of such nature as cannot be reasonably dismantled. If it is found to be, it is exempt from the requirement as to length, weight or size, and permit may issue for it to be moved over the Highway, but with a well defined limitation as to route and time. It may be conceded that it is often difficult to define clearly the line between those legislative acts where [fol. 658] power to suspend a law is given, or attempted to be given, and those where power of fact-finding or administration is given. We think that Section 2 of this Act does not violate Section 26 of Article 1 of the Texas Constitution, and is valid."

If the commodity cannot be reasonably dismantled and its carriage requires a vehicle exceeding the length fixed by the general provisions of the act, then it follows as a matter of course that the permit should extend to the vehicle as well. In no event, however, is a permit authorized for overlength vehicles without regard to the character of commodity.

It may be well to observe at this point that the Commission is without power or authority to grant a permit where the commodity can be reasonably dismantled.

What has been said is subject to certain qualifications. The Commission has the power and authority to protect the highways and bridges from injury or damage by excessive loads. One desiring a permit to haul an excessive load may be required to follow a route prescribed by the Commission, where considerations such as these are necessary.

In all events, however, the Commission is empowered to designate the shortest practicable route where a permit is granted. This does not necessarily mean the shortest dis-

tance between two points, but a route to be designated by the Commission after considering all the transportation [fol. 659] conditions including the protection of bridges and the highway. In other words, after the facts entitling one to a permit have been found to exist, and the permit has been issued as a matter of course, the Commission has a wide discretion in routing the movement of the commodity.

There are a few commodity movements of a permanent and continuing nature in this State. Take for example power companies. Their business requires the almost continuous movement of poles, exceeding the length provision of the act, over the highways in order to make necessary repairs and replacements. It is reasonable to assume that the permit provision of the act was intended to cover a necessary regular movement of overlength commodities, as well as the occasional or isolated movement. Thus, the Legislature made provisions for 90-day permits for this purpose. It is my opinion that the Legislature intended that 90-day permits should be issued where there is satisfactory evidence of a continuing movement of a particular commodity by a given person.

The question arises whether the Commission is authorized to consider railroad or other transportation facilities in passing on requests for a permit. I am of the opinion that other transportation facilities may not be considered. Section 7 of Chapter 282 is a legislative classification applying only to motor vehicles transporting property to or from points of origin and common carrier stations, where [fol. 660] the load is between seven thousand pounds and fourteen thousand pounds. The classification created by Section 2 of the act, requiring permits has no relation to the limitations imposed by Sections 5 or 7 and is independent of them, being a classification within itself.

What I have said is based upon the provisions of Chapter 282 above referred to. There are some provisions of the prior act which are still in effect. Section 3 thereof requires the applicant to file a bond and to pay a fee. Its terms authorize the collection of only one fee and requires the filing of only one bond for each permit which is issued, regardless of whether such permit be issued for one haul or for a continuous operation of ninety days."

E. C. KINCADE stated:

That he resides in Houston, Harris County, Texas. That he is vice-president of the Gulf Pipe Line Company and has occupied that position for a number of years. That in the pursuit of his business there comes almost constantly within his observation the transportation by truck of oil field equipment.

That from his experience he would say that 90 per cent of single commodities weighing in excess of 7,000 pounds which cannot be reasonably dismantled are transported by truck from point of origin to the nearest practicable com- [fol. 661] mon carrier loading or receiving point. That in the majority of cases persons who are engaged in the business of and equipped to transport heavy machinery and commodities weighing in excess of 7,000 pounds usually also transport other heavy commodities which are less in weight and size by unit than 7,000 pounds. That they usually also transport such commodities only from point of origin to the nearest practicable common carrier receiving or loading point. For instance, practically all pipe line pipe is unloaded from flat railroad cars on trucks and transported to the pipe line being constructed. It seems reasonable, in view of such established practice, to confine heavy equipment and heavy loads to the least practicable portion of the highways provided the heavy equipment can be used to transport pay loads of articles which are of less weight by unit than 7,000 pounds when such vehicles are not being used to transport commodities weighing in excess of 7,000 pounds and which cannot be reasonably dismantled. If, however, equipment large enough to transport single commodities which cannot reasonably be dismantled cannot also be used to transport loads in excess of 7,000 pounds of other commodities from point of origin to the nearest practicable common carrier loading or receiving point and from common carrier loading or unloading point to point of destination by the shortest practicable route, it would practically be impossible to have a means of transportation for such oversize single commodities for the reason [fol. 662] that such equipment cannot be maintained solely for that purpose.

Generally speaking, two sizes of trucks commonly referred to as "large trucks" and "small trucks" are used.

When he refers to a large truck he means a unit composed of a three-ton truck and a three-ton semi-trailer, and when he refers to a small truck he means a unit composed of a one-and-one-half-ton truck and a one-and-one-half-ton trailer. The average load of a small truck is 7,000 pounds, and a load of 7,000 pounds can be economically hauled upon a small truck. The average load for a large truck is 14,000 pounds and loads of less than 14,000 pounds cannot economically be hauled upon a large truck. Yet large trucks are absolutely essential to transport commodities weighing in excess of 7,000 pounds. For instance, in a drilling rig there are six pieces, each weighing in excess of 7,000 pounds, which cannot be reasonably dismantled. There are two pumps, the weight of each of which averages from 8,000 to 12,000 pounds; one drum, the weight of which, with drilling line, averages from 14,000 to 16,000 pounds; one rotary, the weight of which averages from 8,000 pounds to 15,000 pounds; the engine, the weight of which averages from 14,000 to 18,000 pounds; and the boiler, the weight of which averages from 17,000 to 25,000 pounds. It is essential to have at least a three-ton truck and a three-ton trailer to transport any of these items for the reason that [fol. 663] a small truck and trailer, as above defined, simply will not stand up under this sort of load. Furthermore, 90 per cent of large trucks are equipped with winches necessary to load heavy commodities, while less than 10 per cent of small trucks are so equipped.

The cost of a large truck of the size above mentioned fully equipped, with license paid, is in excess of $5,000, and the average cost of operation of such truck is approximately 35 cents per mile. The cost of small truck fully equipped, with license paid, is from $1,800 to $2,500, and the cost of operation is about 15 cents per mile. In other words, the original cost and cost of operation of the large truck is approximately twice the original cost and cost of operation of the small truck. It becomes apparent that a large truck could not be used to haul a 7,000-pound load when such load could be transported at one-half the cost upon a small truck. The small truck, however, cannot be used to transport large overweight single commodities which cannot be dismantled. The result would be that if the large truck could not be used to transport loads up to 14,000 pounds of commodities which can be dismantled,

it would be impossible to maintain a large truck simply for the hauling of single commodities which cannot be dismantled. The original cost and cost of maintenance for this purpose would be prohibitive.

By way of further illustration, there are, as shown above, [fol. 664] six pieces in a drilling rig weighing singly in excess of 7,000 pounds which could not be transported on a small truck. In the average drilling rig there are 18 large truck loads; that is, there are twelve average 14,000-pound truckloads in addition to the six items mentioned. Since the big truck would have to be used to transport those articles which cannot be dismantled and which weigh singly in excess of 7,000 pounds, they are also used to haul the remainder of the rig. If, however, the operator were limited to 7,000-pound loads on the remainder of the rig, it would mean that in the transportation of drilling rigs alone the large trucks would be idle two-thirds of the time. This relates, of course, merely to the transportation of drilling rigs. The percentage of time during which it would be compulsory to keep the large trucks idle is increased tremendously when it is realized that they could not be used at all to transport pipe line pipe and many other items of oil field equipment which come singly or in quantities weighing less than 7,000 pounds—that is when small trucks could be used for these purposes at one-half the cost.

Since practically all commodities weighing 7,000 pounds or more are transported from one point of origin to the nearest practicable common carrier loading point and since a major portion of the large trucks necessary to transport such commodities are used within this limited territory [fol. 665] such large trucks could be maintained and continued to be operated for this purpose if also permitted to transport loads weighing 14,000 pounds of other commodities of lesser weight per unit within the same limited area.

Persons who desire to use the highways generally without territorial restriction are not permitted to haul loads in excess of 7,000 pounds. Such persons, however, need not be equipped to transport heavy commodities which cannot be dismantled but can profitably operate a small truck in the transportation of such loads. It is necessary, however, that large commodities which cannot be reasonably dismantled and which weigh singly in excess of 7,000 pounds be trans-

ported. In order to provide for their transportation it is necessary to have large trucks properly equipped to handle such commodities. Large trucks, however, cannot possibly be profitably operated if permitted to transport only 7,000-pound loads of commodities which are in unit sizes of less than 7,000 pounds. There are not sufficient single commodities which cannot reasonably be dismantled weighing singly in excess of 7,000 pounds to justify the operation of such large trucks confining them to the transportation of such overweight commodities. It is reasonable, therefore, to permit such large trucks when not engaged in the transportation of overweight commodities which can not be reasonably dismantled to transport loads sufficiently large to justify and permit their operation, but at the same time to [fol. 666] confine such heavy hauling to the least practicable portion of the highway. It is this consideration which he thinks fully justifies that provision of the present statute which permits hauling of 14,000 pounds from the point of origin to the nearest practicable common carrier receiving or loading point. The operation of heavy equipment and the transportation of heavy commodities is thus made possible but is confined to the least practicable portion of the highway. It is a restriction against the operation of heavy equipment and the transportation of heavy commodities over the highway, he thinks, a reasonable restriction.

If it be considered a privilege to persons desiring to haul such heavy commodities, it is absolutely necessary in order that equipment may be kept and maintained for this purpose, for if such equipment cannot be used to transport at least 14,000-pound loads of commodities which are in unit weights singly of less than 7,000 pounds, such equipment cannot be kept and maintained at all. The result of this would be that it would be practically impossible to transport large single commodities even though permit for their transportation might be procured. There simply would not be equipment available to transport same. The cost of maintenance for this limited use would be prohibitive. These considerations justify the belief that the privilege granted operators of big equipment, if it be considered a privilege, is indeed reasonable—more than that, it is [fol. 667] necessary.

My statement with reference to hauling of oil field equipment applies equally to hauling of structural steel, heavy machinery and many other like commodities.

The average length of line pipe is 40 feet and the average telephone pole is approximately 40 feet. There are many other commodities of approximately the same length. In order to transport such commodities a minimum length of the vehicle of 55 feet is required. As in the case of overweight single commodities, it is usually true that overlength commodities are transported from point of origin to nearest practicable common carrier loading point and vice versa. Special equipment is necessary to handle such commodities and the reasons which apply to the operation of oversize trucks for the transportation of overweight commodities applies equally to the transportation of overlength commodities. Such commodities must be transported, but their transportation should be limited to the least practicable portion of the highways.

It is generally true that practically all hauling of heavy commodities is conducted in the less congested areas, and it is also true that most of the transportation of heavy commodities by truck is from railroad loading points to destination by the shortest practicable route or from point of origin to the nearest practicable common carrier loading point. Where heavy commodities are transported from [fol. 668] point of origin to the nearest practical common carrier loading point in the more congested areas, the distance traversed by truck is always very short. The result is that this class of transportation interferes less with general highway traffic than probably any other class of transportation. For example, pipe lines are usually laid through rural territories away from the highways. Pipe is hauled from the nearest unloading point or siding to the point to which the pipe line has been extended. In most instances a very small percentage of this hauling is done over the public highways.

The testimony of the witness E. C. Kincaid was substantially corroborated in all its essential features by the witnesses Joe D. Hughes, who has been long engaged in transporting oil field equipment; M. U. Borden, long engaged in the trucking contracting business; W. M. Dewey, engaged in

transporting oil field equipment, and Chas. O. Cramer, engaged in the business of transporting oil field equipment.

A. SCHOLTEN stated:

I am a graduate civil engineer from Switzerland with about 15 years experience in general engineering. I am now employed by the Engineering Service Corporation. I have personally measured one of the trucks and trailers used by Bull-Stewart Equipment Company, Inc., in transporting Ford cars over the public highways of Texas. Attached hereto and marked Exhibit "A" and incorporated [fol. 669] herein is a diagram showing in feet and inches each of the material dimensions of said vehicl-s. The over all length from front bumper to rear end of said vehicle is 60 feet 1 inch. The length of the semi-trailer is 50 feet and the length from center of rear axle of the power unit to the center of the rear axle of the semi-trailer is 32 feet 4 inches. The whole of said semi trailer is constructed of structural steel so as to constitute one rigid piece of equipment. Attached hereto and marked Exhibit "B" and incorporated herein is a photograph which accurately and truly depicts the vehicle above described and the dimensions of which are shown in the attached diagram. The particular piece of equipment shown in the two attached exhibits is in all respects typical of the equipment used by the Bull-Stewart Equipment Company, Inc., in the transportation of Ford cars and trucks over the public highways of this State. I examined a number of said pieces of equipment and on each and every one examined the semi-trailer unit was greatly in excess of 35 feet in length.

(The photograph referred to is sent up as an original exhibit, marked "Exhibit No. 23." The diagram is marked, "Exhibit No. 24," and is sent up as an original exhibit.)

[fol. 670] E. T. MURPHY stated:

I am a member of the Legislature of the State of Texas and was a member during the regular session of the 42d Legislature. I am one of the members of the House of

Representatives who originally introduced House Bill No. 336. After House Bill No. 336 had been introduced many facts were presented to the Legislature and the Committees which were considering matters of highway legislation, with special reference to the difficulty in transportation conditions generally between that particular class of highways running between common carrier loading and receiving points and that particular class of highways between common carrier loading and receiving points and points of origin and destination beyond the same.

For the convenience of this affidavit, the first class of highways or transportation service, above mentioned, is Class A and the second class is Class B. It was shown to be true as follows:

(a) There is a very heavy use of Class A highways and such highways are very congested, and it is possible to secure adequate transportation service in such vicinities from several different forms of transportation. On the other hand, with regard to Class B, the use of the highways is limited, and the availability of satisfactory transportation service is limited.

(b) The number of trucks used in Class A service, above [fol. 671] referred to, is very high; whereas, on the other hand, there is an infrequent use of trucks in so far as Class B service is concerned.

(c) Problems of protecting the highways from injury or protecting the highways against traffic congestion and of insuring the safety of the ordinary travel on the highways are far greater with regard to Class A highways than Class B service, above referred to.

(d) The use of Class A highways and the highways in use by the general traveling public is very heavy; whereas, on the other hand, with regard to Class B, the use of the highway by the general traveling public is much less. In this respect the general traveling public needs far greater protection in regard to the size of vehicles in the Class A service than in the Class B service, and in order to protect the safety of the highways of the general traveling public and to protect the general traveling public, it is far more necessary to limit the size of vehicles and the weight of the loads carried thereon for trucks operating over the

Class A highways or in Class A service, above referred to, than for trucks operating on the Class B highways or in Class B service.

W. P. BENTLEY, president of Uvalde Construction Company, Dallas, Texas, stated:

The Uvalde Construction Company is engaged in gen-
[fol. 672] eral construction work, especially paving and road building work. I have been engaged in the general construction business for 26 years.

I am thoroughly acquainted with the uses of highway-building-and-maintenance machinery and the manner in which it is used in road construction. Highway-building-and-maintenance machinery is never used for the purpose of transporting persons or property upon the public highways of the State. Such machinery is used only for the purpose of building and repairing public highways, and therefore the only times at which it is moved over the public highways are when it is actually being used in working upon the highways or being moved from one place of work upon the highways to another place of such work. Such machinery is never found upon the highways except to a very small extent, and the uses of such machinery upon the highways in no way can be said to constitute a traffic hazard or menace upon the highways.

I am also acquainted generally with the uses to which machinery used for the purpose of drilling water wells is put. Such machinery is never used for the purpose of transporting property or persons upon the highways of the State and is moved over the highways only when it is being moved from one point of work to another point of work. Comparatively speaking, such machinery makes a very limited use of the highways and is found upon the highways to such a very small extent that it cannot be said in [fol. 673] any way to constitute a traffic problem or traffic menace upon the highways.

H. M. SEAMAN, Houston, Texas, stated:

I am at present connected with Kirby Lumber Company as Land and Tax Commissioner of Kirby Lumber Com-

pany, and in that capacity I have occasion, more or less constantly, to travel on the highways of the State, particularly in East Texas. I would say, on an average, that I am on the highways in that section about three days per week. My travels take me frequently into Harris, Liberty, Jefferson, Hardin, Jasper, Newton, Orange, Tyler, Polk, Angelina, Sabine, San Augustine, Shelby, and Nacogdoches Counties. I am familiar with all of the major highways in said Counties. I have had occasion to observe the rapidly increasing volume of commercial transportation on these highways, particularly that of trucks carrying all sorts of merchandise, including cotton. In my opinion, the hazard upon the highways has been greatly increased by this increase of commercial traffic, and may briefly be said to be in proportion to such increase. I have noted this particularly in relation to the more heavily loaded trucks and the long ones, including in the latter the combination of truck and trailer. I have had occasion to take note of a number of accidents, more or less serious, directly traveable to these causes. In respect to the heavy loads, I have taken [fol. 674] special note of cotton, and, at times, of other commodities loaded high so as to be easily toppled over. In many instances, I have observed that the loads were insecurely fastened. On one occasion I was traveling between Houston and San Antonio and found considerable difficulty in passing a heavily loaded cotton truck. The reason was that he held to the middle of the road, apparently being afraid to give over to one side and incur the hazard of toppling the load over. I finally got by him, but he seemed not satisfied and in turn tried to pass me, and as a result did topple his load, but, fortunately for me, it went over on the opposite side from my car.

It is my definite opinion that if commercial trucks are to continue on the highways of Texas there should be definite limitations to the height, width, weight, and length. I have not given sufficient consideration to the matter to endeavor to determine just what the limitations should be, but I would say, in any event, that the limitation in weight of 7,000 pounds, and in over-all length of 45 feet, to include the trailer, would be in the direction of safety. I cannot see why the permission of this amount of weight and length would not be liberal.

T. R. Bolin stated:

For the past four years I have been employed by the State Highway Department as License and Weight In-
[fol. 675] spector located in the Houston-Galveston Division. During this time I have made observation of all kinds of trucks, of every kind of load and of every kind of driver.

I consider the cotton truck the most dangerous and the most hazardous of all the trucks on the public highways of Texas. I attribute the cause of this condition to overwidth, insufficient clearance lights, height of load, overloading of truck, speeding, both while loaded and empty, parking on the highway without lights, and, last, but not least, to the incompetency of the drivers.

I have spent days and nights explaining the laws to the drivers, trying to get their cooperation in observing the laws and 90 per cent of them ignore me and continue to disregard every law on the statute book pertaining to traffic.

John E. Blair stated:

Having been employed by the State Highway Department for the past four years as Division Engineer located at Bryan, Texas, in charge of Highway Maintenance, I have had numerous opportunities of observing the operation of loaded trucks on the highways.

It is my judgment that trucks loaded with uncompressed cotton bales constitute one of the most objectionable classes of traffic which is to be found on our roads.

These trucks are especially dangerous to other traffic by
[fol. 676] reason of the fact that they are loaded in such a way as to be very topheavy and are easily capsized wherever rough places in the road are found.

Uncompressed cotton is comparatively light in weight as compared to the volume, and in order to load a truck to its capacity and still keep within the legal width, it is necessary that the load extend to a considerable height. This results in a load that is hard to manage and easy to turn over.

There is also a tendency on the part of the driver of a truck loaded in this way to keep to the middle of the road

wherever the road has a considerable transverse crown. This makes it hard for other vehicles to pass and has been the cause of many serious collisions and other accidents.

Cotton is very inflammable and I have seen a number of cases where trucks loaded with cotton have burned on the highways. These fires are readily started by a cigaret carelessly thrown from a passing car or possibly by the driver of the truck himself. I have known of some cases where loads of cotton burning in the road have blocked traffic for several hours at a time, causing great inconvenience and danger to the other traffic.

GEORGE SHIELDS stated:

I live at Denison, Texas. My business is that of funeral director. My place of business is 425 Woodard Street in Denison, Texas. My place of business is one-half block off [fol. 677] Main Street, along which passes most of the through traffic on commercial trucks moving between Denison and Sherman on Highway No. 6. The volume of this traffic is very heavy and consists of oil-field equipment, machinery, general merchandise, and cotton. There is more cotton than anything else. Most of this traffic moves southward through Denison to Sherman and to points beyond.

I have had especial occasion to note the effect of commercial trucks on that portion of Highway No. 6 extending from the State maintained portion of that highway beginning just inside the city limits of Denison and extending to a like point just inside the city limits of Sherman. This stretch of Highway No. 6 is approximately 8 miles in length. The present concrete pavement on this stretch of road has been in existence only about 14 months. About 90 days ago I made a check of the condition of this stretch of highway for the purpose of noting carefully the damage done by traffic thereon, especially the existence of cracks. I noted at that time that of the total number of concrete slabs in this stretch of highway there were only 48 that were not cracked.

I made a second check about 45 days ago and found only 32 slabs not cracked. On last Sunday, the 22d of Novem-

ber, I made another check and there were only 18 slabs not cracked, varying from 1 to 8 cracks to a slab.

In comparison with the effect of commercial traffic on [fol. 678] this 8-mile stretch of highway, I wish to direct attention to about three-quarters of a mile of pavement of a similar character in the City of Sherman. The City prohibited heavy traffic on this concrete pavement of 54 slabs and I observed that there has not been one of these slabs cracked. This 54 slabs of pavement in the City of Sherman was, according to my information, laid by the same contractor and was delayed beyond the construction of the 8 miles mentioned about 6 weeks in order to allow for the settling of a fill made necessary by the unfavorable condition of the soil in that immediate vicinity. The construction was upon the same specifications, according to my information.

It is especially noticeable that the cracking ceased right at the point where the truck traffic turned off. It should be also mentioned in this connection that a portion of the pavement constructed on this fill has been used by the trucks and is damaged in like fashion with the remainder of the 8-mile stretch.

It should be understood in connection with this affidavit that where I mention slab I mean across the entire pavement from one transverse expansion joint to the other.

The trend of the loaded commercial truck traffic on this highway is very heavy toward the south and comparatively lighter in the opposite direction.

It is quite noticeable that there are more cracks in the [fol. 679] pavement on the right-hand side going south than on the other side.

Ernest R. Schoen, Dallas, Texas, State Agent for the Cotton Insurance Association, stated:

For the past 19 years I have been engaged in the particular business of cotton insurance.

Because of my experience in this business, and my study of problems concerning the insuring of cotton, I am acquainted with the different factors obtaining with reference to dangers from fire in cotton in the different forms in which it is kept and the different forms in which it is stored.

Cotton, in its ordinary baled form, is a substance of a highly inflammable nature, and in all places where cotton is handled unusual precautions are necessary to protect it from fire. Furthermore, fire will spread very quickly in any quantity of cotton in its ordinary baled form which is stored or kept in quantities of more than one bale. It is a well known fact that an uncompressed bale of cotton is more likely to catch fire than a compressed bale of cotton, and it is further a well known fact that fire will more easily and more quickly spread in uncompressed cotton that is stored or kept in a number of bales than it would spread in the same amount of compressed cotton kept or stored in a like number of bales.

There is another fire hazard which is greatly lessened, if [fol. 680] not obviated, by compression. During the course of ginning, smoldering fires are often packed into the bales at the gin. When handled in an uncompressed state these fires break out very often while the cotton is in the course of transportation. A majority of the fires in cotton come from this cause. Where the cotton is compressed, such incipient fires are almost invariably either detected or smothered out during the operations incident to the compression of a bale of cotton. If such incipient fires are not detected when an ordinary flat bale of cotton is opened prior to compression, they are usually smothered out by reason of the expelling of oxygen through compression.

G. S. WHITFORD, Dallas, Texas, stated:

For 13 years prior to August 1, 1930, I was connected in some capacity with the Highway Trailer Company.

During the past 3 years the operation of the cotton truck over the highways of Texas has presented a peculiar problem with reference to the danger caused by the operation of cotton trucks to other traffic on the highways. From my own study and personal observation, I know that the number of accidents on the highways caused by cotton trucks is in far greater proportion to the accidents caused by any other kind of trucks, and that the cotton truck as it has been operated over the highways has constituted an unusual [fol. 681] traffic menace upon the highways. From an operating standpoint and from a mechanical standpoint there

are a number of factors that contribute to this condition. In the first place, cotton in uncompressed bales furnishes a load in which the size of the bale is disproportionate with the weight of the bale and the density of the bale. For this reason when a truck or trailer is loaded with more than 10 bales of cotton the center of gravity of the load is so high off the ground that the load becomes topheavy and is subject to being easily turned over. In this particular connection, it is further a fact that the roads in Texas are, in the majority of cases, of such a narrow width and are so constructed with reference to the center of the road being higher than the edge of the road, that it is dangerous for the driver of a cotton truck which is loaded and operated as the cotton trucks in Texas have been loaded and operated in the past, to move over to the side of the road and give approaching vehicles a reasonable space within which to pass. There is thus created upon the road such a condition that the cotton truck cannot be operated in a manner that will reasonably permit other vehicles to pass safely without in turn endangering the operation of the truck itself, for the reason that the moving or the running of such a topheavy load as above described over to the edge of most of the highways of the state will cause the load to topple and will make it likely to turn over. The drivers of the cotton trucks which have been operated over the highways [fol. 682] of this state during the past cotton seasons could not possibly operate those trucks in a manner consistent with the safety of other vehicles on the highways and, at the same time maintain a reasonable degree of safety for themselves and the trucks they were operating.

What has been said above with reference to the operation of these trucks upon the roads especially applies to the operation of the trucks around curves. Trucks and trailers carrying more than 10 bales of uncompressed cotton, as they have been operated in the past over the highways of Texas, are especially dangerous to the traveling public upon the curves of the roads.

From a mechanical standpoint, and from an operating standpoint, the danger attendant upon the operation of cotton trucks as above referred to would be greatly lessened if the volume of the load were reduced to a point that it would not be so disproportionate to the weight of the load. Furthermore, if the height of the load were reduced, the

center of gravity would necessarily be lowered and the loads would be less topheavy, and the trucks could be moved over to the side of the road with greater safety for the purpose of allowing other vehicles to pass, and could be so handled in turning curves that they could be kept over to the side of the curve so that other vehicles could pass on the curve.

I am generally acquainted with the handling of cotton and, [fol. 683] as above stated, have made a particular study of the handling of cotton in so far as truck transportation is concerned. I am further acquainted with what is known as the compression of cotton. If a load of cotton exceeding 10 bales, regardless of what the weight of the load was or how many bales were contained in the load, were compressed to a density of 22 pounds per cubic foot, which is standard compression, then the load of cotton as compressed would be less of a traffic menace and traffic danger while being operated over the highways of this state than the same load of cotton, whatever might be its weight or size, would be if the cotton contained on the load were uncompressed. The compressed load would be less topheavy, the center of gravity in the load would be lower, and for this and other reasons the loads would be less likely to turn over on the highways, the trucks on which the loads were being carried could be moved over with greater safety for the purpose of permitting other vehicles to pass, and the trucks could be so handled in rounding curves that greater space could be given to approaching vehicles for passing on such curves.

W. G. Huber stated:

On March 19, 1931, I resided at 106 North Cameron Street, Victoria, Texas. On that date I had left my automobile, Chevrolet touring car, parked just in front of my front gate, [fol. 684] facing on Cameron Street. The automobile was parked on the right side of the street, north, with both front and rear right wheels against the sidewalk, as close as it could get. The automobile was not occupying any more of the street than necessary, and was parked in accordance with the law. While in the house having lunch, about 12:40 p. m., my wife noticed a cotton truck pass in

front of the house and remarked that it looked like the load was going to fall off the truck. I was told this truck stopped after going a short distance and had to re-arrange the load. About two minutes after the first passed we heard a noise and running out saw a six-wheel cotton truck had stopped with rear end opposite my automobile. The truck was loaded with 29 bales of cotton. On investigation I found that one bale fell against the front of my automobile and broke the headlight. One bale fell against the windshield standard, bending it. Three bales fell against the left side of my car and bent, or, rather, shoved the dashboard over to the right. The tires on the left side of the car were completely flat from the weight of the bales of cotton, each weighing approximately 700 pounds.

The truck, as I understood, was the property of Mr. R. J. McDonald, of El Campo, Texas, and the men on the truck stated they were working for the McDonald Trucking Company. The truck, as I was told, was loaded at the oil mill at Victoria, Texas.

[fol. 685] The load on the truck shifted just as it was passing my automobile and the bales fell as shown above. The pictures which are attached to this affidavit are actual pictures taken by Mr. J. L. Young, Victoria, Texas, taken shortly after the accident, and show the cotton truck, my automobile, and the bales of cotton as they actually were. In taking one picture, showing the bales on my car, Mr. Young stood on my front steps and took it.

(The pictures referred to are marked "Exhibits Nos. 25, 26, 27, 28, 29, and 30," and are sent up as original exhibits.)

Had my car been new or anyone in it, or had the bales fallen on a moving car instead of mine, there would likely have been a serious injury. Had the accident happened a few minutes later my son and I would have both been in my automobile.

A. C. Hoffman, Waco, Texas, stated:

Among other duties I acted in the capacity of General Superintendent for 11 interior compress companies.

The average dimensions of a standard, uncompressed bale of cotton are as follows: 54 inches in length, 27 inches in

width, 42 inches in height. The average dimensions of an average bale of cotton compressed to a density of 22 pounds per cubic foot are: 54 inches in length, 27 inches in width, 18 to 21 inches in height. Compressing a bale of standard, uncompressed cotton to a density of 22 pounds per cubic foot would reduce the volume of that particular bale at least [fol. 686] 50 per cent and in many cases more than 50 per cent.

The interior compresses in Texas are scattered all over the State and there is practically no locality in the State that cannot receive the services of an interior compress within a reasonable distance.

A. J. STONE, Dallas, Texas, stated:

The method of producing, gathering, ginning, compressing, marketing of cotton, as well as the peculiarities of the lint itself, make cotton a commodity distinguishable from all other commodities in its transportation characteristics. In my service with the Missouri, Kansas & Texas Railway Company I gained experience with regard not only to cotton, but as to all other commodities generally handled by a railroad. Cotton presents a peculiar problem not generally present in all commodities, in that it is a bulky article, difficult to load, unload, and transport, and presents an unusual fire hazard in its uncompressed condition.

HERMAN NEHRING stated:

I was driving east on Highway No. 20 about three miles from Brenham at about 10 or 12 miles per hour. After holding my arm out for some time signaling that I was going to make a left turn, and after starting to make this turn, about half of my car being clear of the pavement, I was suddenly struck by a cotton truck bearing license plates [fol. 687] number 106486 supposed to be owned by the White Truck Company of Houston, Texas, which was going in the same direction I was.

This truck suddenly appeared over the hill at a very rapid and uncontrol-able rate of speed and was on the left side of the pavement, the right side being entirely clear.

For some time I have noticed these cotton trucks operating through Washington County, and, as a general rule, they pay very little attention to the highway laws, and in my opinion they are very detrimental to the law-abiding motorists.

This accident happened about 5:30 on the afternoon of July 8, 1931.

S. G. Reed, Houston, Texas, stated:

I am and for 42 years past have been in the railroad service and especially in the service of Texas & New Orleans Railroad Company, my present position with said company being Freight Traffic Manager.

I have caused a study to be made of movements of cotton to Houston, Galveston, and Texas City by truck during the seasons of 1928-1929, 1929-1930 and 1930-1931, and annex hereto the result of said study in tabulated form which is true and correct.

It correctly discloses increase in movement of cotton to the ports during the three seasons referred to and clearly [fol. 688] indicates to my mind that in the event the legislation enacted at the recently adjourned session of the Legislature of the State of Texas shall not be effective, within a short time the public highways of the State of Texas leading to Houston, Galveston, Texas City, and Corpus Christi will be almost completely monopolized by trucks hauling cotton during the months August to October, inclusive.

[fol. 689] Statement Showing Certain Information as to Movement of Cotton to Texas Gulf Ports

Cotton Production in Texas and Oklahoma

Season	Running bales produced in	
	Texas	Oklahoma
1928-29	4,941,545	1,187,042
1929-30	3,803,211	1,125,614
1930-31	3,886,141	856,967

Total Movement by Trucks to Houston, Galveston, Texas City, and Corpus Christi, Texas

Season	To Houston	To Galveston and Texas City	To Corpus Christi	Total
1928-29	220,486	2,754	191,565	414,805
1929-30	226,477	10,021	292,674	529,172
1930-31	692,449	158,406	329,988	1,180,843

Percentage Relationship of Movement by Years

1929-30 of 1928-29	102.7%	371.2%	152.8%	127.6%
1930-31 of 1928-29	314.1%	5751.9%	172.3%	284.7%
1930-31 of 1929-30	305.7%	1549.8%	112.7%	223.1%

Number Truck Loads, at Twenty Bales per Load, Required to Handle the Actual Movement by Trucks for the Entire Seasons Shown

1928-29	11,024	138	9,578	20,740
1929-30	11,324	501	14,634	26,459
1930-31	34,623	7,920	16,500	59,043

Total Movement by Trucks During August, September, and October of Each Season

1928-29	105,031	1,187	158,648	264,866
1929-30	143,344	4,799	250,193	398,336
1930-31	460,065	63,428	309,721	833,214

Truck Loads Required to Handle Movement by Trucks During August, September, and October of Each Season at Twenty Bales per Load

1928-29	5,252	59	7,932	13,243
1929-30	7,167	240	12,510	19,917
1930-31	23,003	3,171	15,486	41,660

Truck Loads Required to Handle the Texas Crop at Twenty Bales per Load

Season	Crop in bales	Truck loads
1928-29	4,941,545	247,077
1929-30	3,803,211	190,161
1930-31	3,886,141	194,307

[fol. 690] LAWRENCE WESTBROOK, Waco, Texas, stated:

I have had experience as a cotton merchant, as a cotton producer, and as the owner of cotton gins. Practically my whole business life has been engaged in different phases of the cotton business, and especially for the past 10 years I have studied the problems of cotton marketing from the producer's standpoint. I formerly organized and operated a cotton cooperative association, and the past year I organized for the State of Texas the Texas Cotton Cooperative Association.

The destruction of the interior cotton market is an economic catastrophe for the producer, as well as for the general business structure in the interior. Any saving resulting to the producer from transportation charges by the trucking of cotton by motor truck has not, in my opinion, compensated the producer for his loss resulting from the disruption of his customary competitive local interior markets, which disruption and destruction of such local interior markets has been largely contributed to by the heretofore ineffectual regulation of the transportation of cotton by motor truck.

C. E. KENDALL stated:

I am employed by Texas and New Orleans Railroad Company as Assistant Editor of the Southern Pacific Bulletin, a magazine for the information of officers and employees of said Railroad Company. In connection with my [fol. 691] duties as such Assistant Editor I have taken part in assembling and classifying newspaper clippings relating to accidents on the public highways of the State of Texas involving motor trucks. During the four months' period

June 1, 1931, to October 1, 1931, information with respect to such accidents clipped from newspapers is incomplete for the reason that it includes only items which we ourselves clipped from newspapers which we received in our office. During the period October 1, 1931, to and including November 17, 1931, one month and seventeen days, clippings assembled and classified are believed by me to have been complete, having been clipped and transmitted by the Texas Clipping Bureau, of Dallas, Texas, which has undertaken to cover all such accidents reported in the newspapers of the State. During the total period, incomplete and complete, above set forth and amounting to five months and seventeen days, there were a total of 131 accidents in which motor trucks were involved occurring in the State and reported in the newspapers of the State of Texas. In these accidents 71 persons were reported killed and 141 injured, and, in addition, 4 bridges were destroyed.

During the period of incomplete reports, June 1, 1931, to October 1, 1931, the number of accidents reported was 35, number of persons killed 28, number of persons injured 37.

During the period of one month and seventeen days during which reports assumed to be complete were received [fol. 692] by us the number of accidents reported was 96, number of persons killed 43, number of persons injured 104.

Of the total number of accidents reported 58 involved cotton trucks, although a small number of these were not actually hauling cotton at the time of the accident.

From my personal observation of accidents and wreckage from accidents seen along highways and from my reading of local newspapers in the territory where such accidents have occurred it is obvious that all highway accidents in the State in which motor trucks are involved are by no means reported in the newspapers.

CHARLES S. GAINER stated:

I am a member of the Senate of the State of Texas and was a member of that body during the regular session of the 42d Legislature.

When House Bill No. 336 was up before the Senate for consideration I offered as an amendment to the bill certain provisions that are now known in the bill as Section 3 (f).

I represent in the Senate of Texas the counties of Bastrop, Lee, Burleson, Washington, Brazos and Robertson. These counties are in the direct line of truck traffic passing between North Texas and the ports of Texas, and the traffic problems arising from the increasing uses of trucks have been particularly serious in all these counties. From my [fol. 693] experience and observation, I know that a load made up of units which are contained, boxed, or bound in separate containers weighing over 500 pounds per unit and containing more than 30 cubic feet per unit, becomes an unwieldy load and a hard load to handle when more than 12 or 14 of such units are carried in any one load. Most of such loads are carried on vehicles which are unenclosed, and the load is very likely to spill upon the highways and to cause traffic congestion and to cause traffic hazards to other vehicular traffic upon the highways.

What is more important, most of such loads carrying large numbers of units of the kinds described are loads which from their very nature are topheavy loads. Such loads as these are more likely to turn over on the highways, but still more important is the fact that the driver of such a load is afraid to get over to the side of the road, especially on curves, for fear that the topheavy and unwieldy nature of the load will cause his load to turn over. The drivers of loads of this kind almost invariably keep to the middle of the highway and more traffic accidents in the counties which I represent are attributable to this one fact than to any other one thing.

The operation of trucks over the highways has become a most serious problem for the people of my counties. Not only are our roads being unduly destroyed by truck traffic, but the highways are being more and more made unsafe for ordinary traffic because of the manner in which trucks are [fol. 694] being operated over them. There is, in my opinion, not the slightest question of doubt but that trucks carrying more than 12 or 14 units of the kind above described constitute a peculiar traffic menace in themselves, and it is my opinion that Section 3, subdivision (f) of House Bill No. 336 will aid materially in correcting this condition.

While the above is true with reference to the transportation by trucks of a great number of different commodities, there is one particular factor that should be considered with reference to the transportation of cotton by motor truck. The universal custom is for motor trucks to charge a certain price per bale for the transporting of cotton and not a certain price per 100 pounds or other unit of weight. The inevitable result, in my section of the country, has been that the shippers of cotton, because of the above fact, attempt to get the cotton baled into bales as large as possible, and at the time House Bill No. 336 was passed, and at the present time, there has been a very material increase in the size of bales of cotton which are to be transported by motor truck. Therefore this factor, in so far as the transportation of cotton is concerned, has caused our traffic problems arising from the transportation of cotton by motor truck to become more and more serious, because the larger the size of the different units in question, the more unwieldy becomes the load carrying those units, and the more topheavy becomes that load. Based upon observation and experience, [fol. 695] it is my opinion that unless something had been done to curb the tendency mentioned in this paragraph, it would have become a universal practice for the size of bales of cotton to be transported by motor truck to be increased, and therefore correspondingly would there be increased the traffic dangers and traffic hazards of the traveling public along highways over which such cotton was transported by truck.

Cotton is by no means the only commodity being transported over the highways in units as above described which is causing traffic dangers upon the highways, but almost all other traffic is transported by rates based upon the weight of the different units and not by rates based upon the number of different units.

Therefore, in addition to the reasons making necessary and advisable the passage of Section 3, subdivision (f) of House Bill No. 336 in so far as all kinds of commodities are concerned, there are the above named particular reasons making advisable and, in my opinion, absolutely necessary, the passage of the provisions in question in so far as the transportation of cotton is concerned, if the safety of the general traveling public upon our highways is to be properly safeguarded.

O. E. CLIFT stated:

I am engaged in the cotton business in Ellis County, [fol. 696] Texas, and have had 8 years experience in that business in this territory. To my knowledge the trucking of cotton from Ellis County to the ports began about September 1, 1930, in appreciable quantity. The motor trucks have always made per bale rates regardless of the quantity of cotton in the bale for the transportation of cotton from Ellis County to the ports. Since the advent of motor transportation of cotton, about one year, and the establishment of per bale rates on cotton there has been a marked tendency to increase the size of the bale. This has been true to such an extent that it is not at all uncommon now for a bale of cotton to weigh 700 pounds, whereas prior to the advent of motor truck transportation and per bale rates on cotton the average weight per bale was approximately 500 pounds. The average today would be in excess of 550 pounds.

Five witnesses substantially corroborated the facts testified to by the foregoing witness, O. E. Clift.

J. F. MONDY stated:

I am engaged in the gin business in Hunt County, Texas, and have had 50 years experience in the ginning of cotton in this territory. I am familiar with the ginning equipment used in the baling of cotton. The ordinary gin box used for baling cotton measures inside 27 inches wide by 53 inches long by 114 inches deep. The width and length [fol. 697] of a bale of cotton baled at the gin is standard and does not depend upon the quantity of cotton tendered for ginning and baling; but the depth of the bale depends upon the quantity of cotton ginned and baled.

It is my judgment that 500 pounds of cotton and less can be baled and packed at the gin so as to contain less than 30 cubic feet. As a matter of fact, with the modern baling machinery, used at the gin, 550 pounds of cotton can be baled at the gin so as to not contain more than 30 cubic feet.

Fifty-nine witnesses, all in the gin business, testified to substantially the same facts as the witness J. F. Mondy.

P. O. Pederson stated:

I am sales engineer for the Continental Gin Company, Dallas, Texas. Cotton presses as manufactured and sold by us have a press box 27 inches wide by 54 inches long, and when the bale is pressed the block runs up to within about 30 inches of the follow-block, making a bale, before expansion, 27 by 54 by 30 inches, but after the bale is tied and the pressure let off the bale expands to approximately 33 inches, leaving a 500-pound bale, properly packed, 27 inches by 54 inches by 33 inches, which would be approximately 27 cubic feet of cotton in one bale of 500 pounds. If the ties were tied tight and properly clamped there might [fol. 698] not be quite as much expansion as we have figured.

W. L. Hancock stated:

I am chief engineer for the Murray Company. That Company has for many years manufactured cotton gin machinery. I have charge of the designing and engineering construction of such machinery. The type of cotton gin turned out by the Murray Company has a gin box, packing machinery, and power plant of such construction as to pack and bale approximately 500 pounds of cotton in what is known as the gin bale in a package containing not more than 30 cubic feet.

It is entirely practicable to pack and bale cotton at the gin in lots of approximately 500 pounds in bales not exceeding 30 cubic feet per bale.

The respondents rested.

[fol. 699] Stipulation as to Correctness and Waiver of Notice of Filing

We have examined and read the foregoing — pages comprising all of the evidence taken in the above entitled

action which is relevant and material to the hearing of the appeal on the said action; said evidence being set out in simple and concise form, all of the evidence not essential to the decision and the questions presented by the appeal being omitted, and the testimony of the witnesses being stated in narrative form.

We agree that all parties hereto have received due and legal notice of the statement of evidence as required by Equity Rule No. 75 (28 U. S. C. A. paragraph 723), and we accept service of such notice and hereby waive further notice of filing of said statement, and we agree that said statement, as made, may be approved by the three judges before whom said cause was tried, without further notice to the parties hereto and when so approved may be filed in the Clerk's office and become a part of the record for the purposes of appeal in said action taken by the complainant and intervenors in said above styled and numbered cause.

Frank H. Rawlings, Chas. I. Frances, J. B. Dudley, [fol. 700] W. B. Bates, Leon Jaworski, Attorneys for Complainant and Intervenors. James V. Allred, T. S. Christopher, Elbert Hooper, W. R. Cook, A. R. Reed, Attorneys for Respondents.

ORDER APPROVING STATEMENT OF EVIDENCE

It appearing that the herewith and foregoing statement of evidence was lodged in due time with the Clerk of this court, and that the attorneys for all parties to the said action have agreed that said statement may be approved without further notice to any of said parties, and it appearing that said statement is true, complete, and properly prepared, and that it contains all of the evidence relevant and material to a hearing of the question to be presented on the appeal in said action;

It is therefore ordered that the same be allowed, settled and approved as a true, complete and correct statement of the evidence of said action.

[fols. 701-743] Dated this 15 day of March, A. D. 1932.

J. C. Hutcheson, Jr. (K.), United States Circuit Judge. Duval West (K.), United States District Judge. T. M. Kennerly, United States District Judge.

[fol. 744] IN SUPREME COURT OF THE UNITED STATES

STATEMENT OF POINTS TO BE RELIED UPON AND DESIGNATION OF PARTS OF RECORD TO BE PRINTED—Filed April 2, 1932

Come now the appellants in the above entitled cause and state that the points upon which they intend to and will rely in this Court, are as follows:

Point I

Section 5 of said Act, fixing a seven thousand (7000) pound net load limit on trucks, is an unreasonable and arbitrary regulation, having no substantial relation to highway protection; and deprives appellants of their property without due process of law, contrary to the provisions of the Fourteenth Amendment to the Constitution of the United States.

Point II

Section 5 of said Act, restricting the net load that may be transported by appellants to seven thousand (7000) [fol. 745] pounds, is repugnant to the equal protection clause contained in the Fourteenth Amendment to the Constitution of the United States, because:

(a) Under Section 7 of the Act, the privilege of transporting greater loads is accorded to others who operate under substantially the same conditions as appellants; and,

(b) Under said Act, no load limit is imposed on commercial busses operating under substantially the same conditions as appellants.

Point III

As to interstate operators, Section 5 of said Act is null and void, because a net load limit of seven thousand (7000) pounds is an undue burden upon interstate commerce, and such restriction has no fair and reasonable relation to the objects of the Act and is therefore repugnant to Article 1, Section 8, Clause 3 of the Constitution of the United States, relating to the regulation of commerce among the several states.

Point IV

Subdivision f of Section 3 of said Act creates a classification which is unreasonable, arbitrary and discriminatory and without any substantial relation to the purposes of the Act, thus violating the equal protection and due process clauses contained in the Fourteenth Amendment to the Constitution of the United States:

(a) In making a distinction between commodities which are boxed or bound in containers or binders and those not so boxed or bound; and,

(b) In making a distinction between commodities which are boxed or bound in bales or packages of thirty cubic feet or more in bulk and weighing more than five hundred (500) [fol. 746] pounds and those boxed or bound in bales or packages of less bulk and weight.

Point V

Section 2 of said Act is repugnant to the equal protection clause contained in the Fourteenth Amendment to the Constitution of the United States for the reason that there are created classifications which are unreasonable, arbitrary and discriminatory and without any substantial relation to the purposes of the Act, in that:

(a) The limitations as to size of vehicles do not apply to farm tractors and implements of husbandry, including machinery used solely for the purpose of drilling water wells, and highway building and maintenance machinery temporarily propelled or moved upon the public highway; and,

(b) Under the conditions named in Section 7, vehicles are not restricted to the length limitations imposed by Section 2.

Point VI

Said Act is invalid because Section 2 delegates to administrative officers the authority to suspend a statute, in violation of Section 28, Article 1 of the Texas Constitution, and Clause 1 of the Fourteenth Amendment to the Constitution of the United States.

Point VII

The Court erred in admitting, over appellants' objection, the hearsay testimony of witness George Knapp, as to the capacity of various Texas bridges to sustain certain loads.

[fols. 747 & 748] Point VIII

Sections 5 and 2 of said Act are invalid because they impair the obligation of contracts, in violation of Article 1 of the Constitution of the United States, in that appellants cannot comply with the obligations of valid contracts entered into prior to the passage of said Act, on account of the unreasonable length and weight restrictions imposed by said Sections.

The foregoing statement of points is made under Paragraph Nine (9) of Rule Thirteen (13) of this Court.

Dated this 30th day of March, 1932.

Chas. I. Francis, Leon Jarowski and W. B. Bates, J. B. Dudley, La Rue Brown, Frank H. Rawlings, Attorneys for Appellants. Fulbright, Crooker & Freeman, J. B. Barnett, Swartzberg & Rawlings, Weeks, Morrow and Francis, of Counsel.

[fol. 749] Designation of Parts of Record to be Printed

Come now the appellants and hereby designate the following parts of the record to be printed under the supervision of this Court, and the remaining parts thereof shall be omitted:

(1) Petition of complainant Ed Sproles.
(2) Answer of respondents to plaintiff's petition.
(3) Petitions of intervention of:
a. Yellow Cab Transit Company, a corporation;
b. Tennessee Dairies, a corporation;
c. John B. Barbour Trucking Company;
d. W. T. Stevens;
e. Bull-Stewart Equipment Company, Inc.
(4) Answer of respondents to petitions of intervention of:

a. Yellow Cab Transit Company, a corporation;
b. Tennessee Dairies, a corporation;
c. John B. Barbour Trucking Company;
d. W. T. Stevens;
e. Bull-Stewart Equipment Company, Inc.

[fols. 750 & 751] (5) Final decree of the Court.
(6) Opinion of Court denying temporary injunction.
(7) Final Opinion of the Court.
(8) Findings of fact and conclusions of law.
(9) Assignment of Errors.
(10) Statement of points relied upon for appeal.
(11) Narrative of evidence complete including all exhibits.

Dated this the 30th day of March, 1932.

Charles T. Francis, J. B. Dudley, Frank H. Rawlings, Leon Jarowski, W. B. Bates, La Rue Brown, Attorneys for Appellant. J. B. Barnett, Swartzborg & Rawlings, Fulbright, Crooker & Freeman, Weeks, Morrow & Francis, of Counsel.

Examined, approved, and agreed to and formal service waived.

James V. Allred, T. S. Christopher, Elbert Hooper, Attorneys for Appellee. J. H. Tallichet, W. M. Streetman, A. L. Reed, of Counsel.

[fol. 752] [File endorsement omitted.]

Endorsed on cover: File No. 36,640. S. Texas D. C. U. S. Term No. 826. Ed Sproles et al., appellants, vs. T. Bi[illegible] ford, Sheriff; O'Brien Stevens, District Attorney; R. [illegible] Martin, Constable, etc., et al. Filed March 25, 1932. Fi[illegible] No. 36,640.